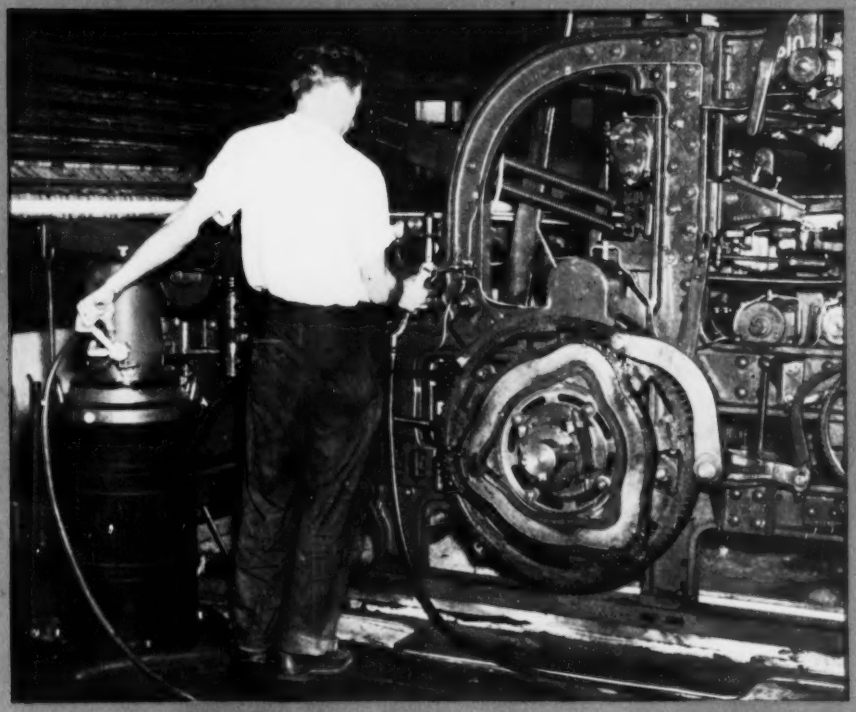
TEXTILE WORLD

A McGraw-Hill Publication ..... MAY • 1949



CENTRALIZED LUBRICATION
Produces Savings, Cuts Costs

Page 115

REGAINING QUALITY Requires Definite Plan

An effective quality-control plan by which management can save thousands of dollars annually through watching the individual performances of operators, supervisors, and machinery is outlined in detail on page 103.

Monofilament and Staple AZLON Produced

A new casein fiber, Caslen, made in sizes ranging from 145 to 1330 denier per filament is now being blended with wool in air-cleaner felt. Trial lots are being used by textile mills. See page 106.

PATTERN WHEELS Adaptable In Circular-Knit Designing

Knitters can get more from their pattern-wheel machines by studying the operating information extracted from a forthcoming book. Brand new data on pattern-wheel designing start on page 112.

COMMERCIAL FACTORS CORPORATION

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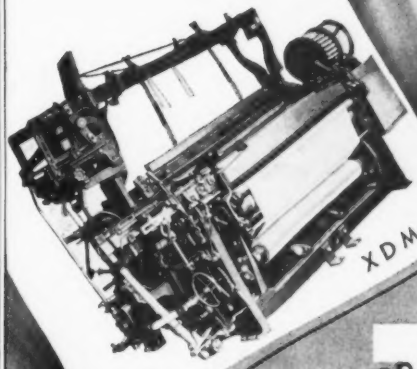

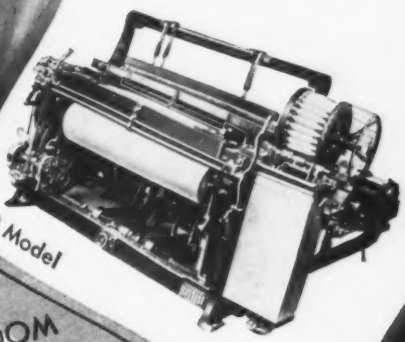

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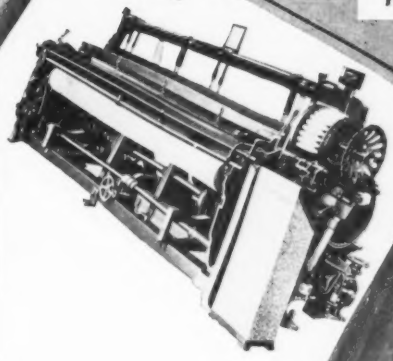
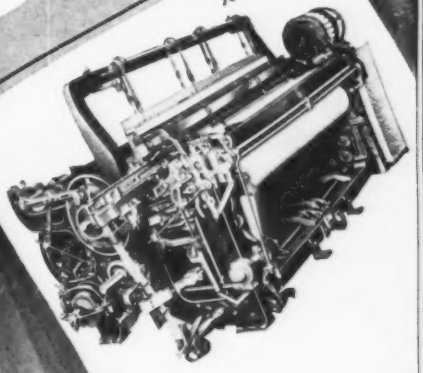
AT LESS COST





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THE *Long-Range* VIEW

Spinners Should Squawk

The sixth annual cotton Spinner-Breeder conference will be held in Charlotte, N. C., beginning May 30. The purpose of the conference is to develop "mutual understanding between all components of the industry."

Unquestionably, that is an admirable and worthwhile aim; but many mill men who attended the fifth annual conference in Greenville, Miss., last year may be inclined to put their tongues in their cheeks when they read it. Parts of the conference were carried on in an atmosphere of stubborn (and not always subtle) resistance between the "components" who were to seek "mutual understanding." The truth is that some of the components sought little that was mutual and were inclined to avoid understanding another component's problems.

In a conference of cotton spinners and cotton breeders and growers, the spinner is in the position of a customer. When a mill gets a complaint from a customer, it is admittedly bad business manners to tell the customer that the cloth is going to be made that way and no other, and if the customer doesn't want it he can try to buy his goods somewhere else.

In effect, the foregoing bad attitude cropped up now and then during the Spinner-Breeder conference last year. A particular instance of it was caused by a complaint by spinners in regard to foreign matter—specifically, grass—in cotton. It was pointed out by spinners that openers, pickers, and cards would not remove the grass. The breeder-grower reaction was that the grass was in the fields, it would always be there, it would always be picked with the cotton, and if it were removed anywhere, it would be the mills that did it.

Now certainly, something is wrong when such an attitude is publicly proclaimed. Producing cotton, strange as it may seem, has some ugly aspects of a monopoly. These aspects are the political cotton-price support program and the clumsy, antiquated method of cotton marketing. They permit an individual grower to "wash his hands" of his product the moment he dumps it into a several-million bale pool.

The immediately useful thing that should be done is to determine how the conference in Charlotte can be made helpful to mills. The Delta Council at Stoneville, Miss., did an excellent job of planning and mechanically carrying out the fifth conference. Undoubtedly, the sixth conference will also be well planned and executed; but it will serve no useful purpose unless the components actually and practically seek mutual understanding.

Basically, a major thing wrong with the conference last year was that spinners in general were not interested enough to attend it. Since it was held in the Delta country, it was, of course, dominated by breeders and growers. Inevitably, spinner problems were thrown out the window.

Why did spinners not attend the conference? The answer is evident: they were as deeply steeped in outworn cotton traditions as cotton growers are. They have accepted their raw stock "as it comes" for so long that it is second nature for them to spend thousands of dollars to correct faults that growers and ginners could correct for hundreds.

As is well known, the packaging and marketing of American cotton have made little, if any, real progress in a hundred years. Net-weight trading, permanent identification, and automatic sampling are features that should be straightened out. The answers to these problems have been worked out by the government—and carefully pigeonholed. As long as spinners buy cotton "as is" and don't take the trouble to complain, the answers will remain pigeonholed. It is up to the consumer—the spinner, in this instance—to put enough concerted pressure on the producer to have the corrective measures put into effect.

The Spinner-Breeder conference is well attended by breeders, growers, textile-school educators, and Department of Agriculture cotton men. It offers an excellent opportunity for cotton spinners to present their problems to men who can go far toward correcting them. There is no reason why textile men cannot forcefully present their side of the picture to the other components of the conference. It is high time that mills took the attitude that a complaint is justified. After a hundred years of cotton "as it comes," spinners should squawk like any other good customers.

And Charlotte, on May 30, is a good place to begin.

D. M. Thomas

ASSOCIATE EDITOR

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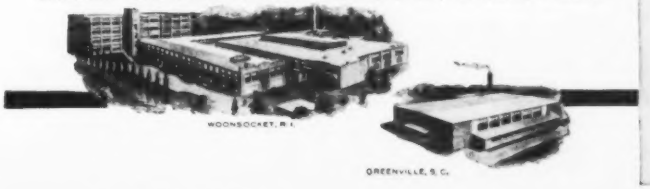

ON THE AVENUE

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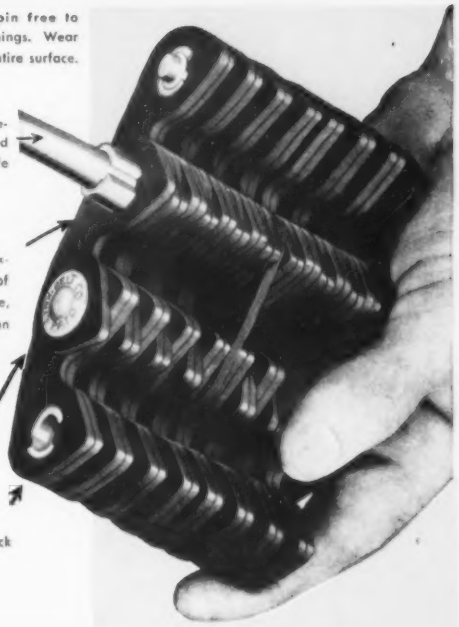

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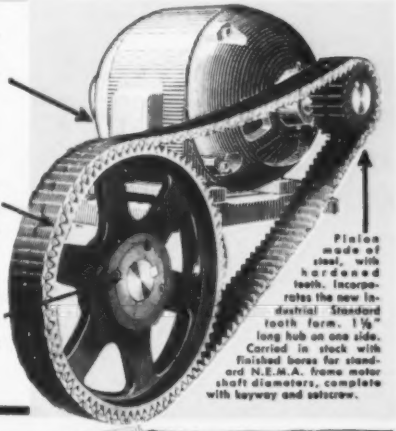

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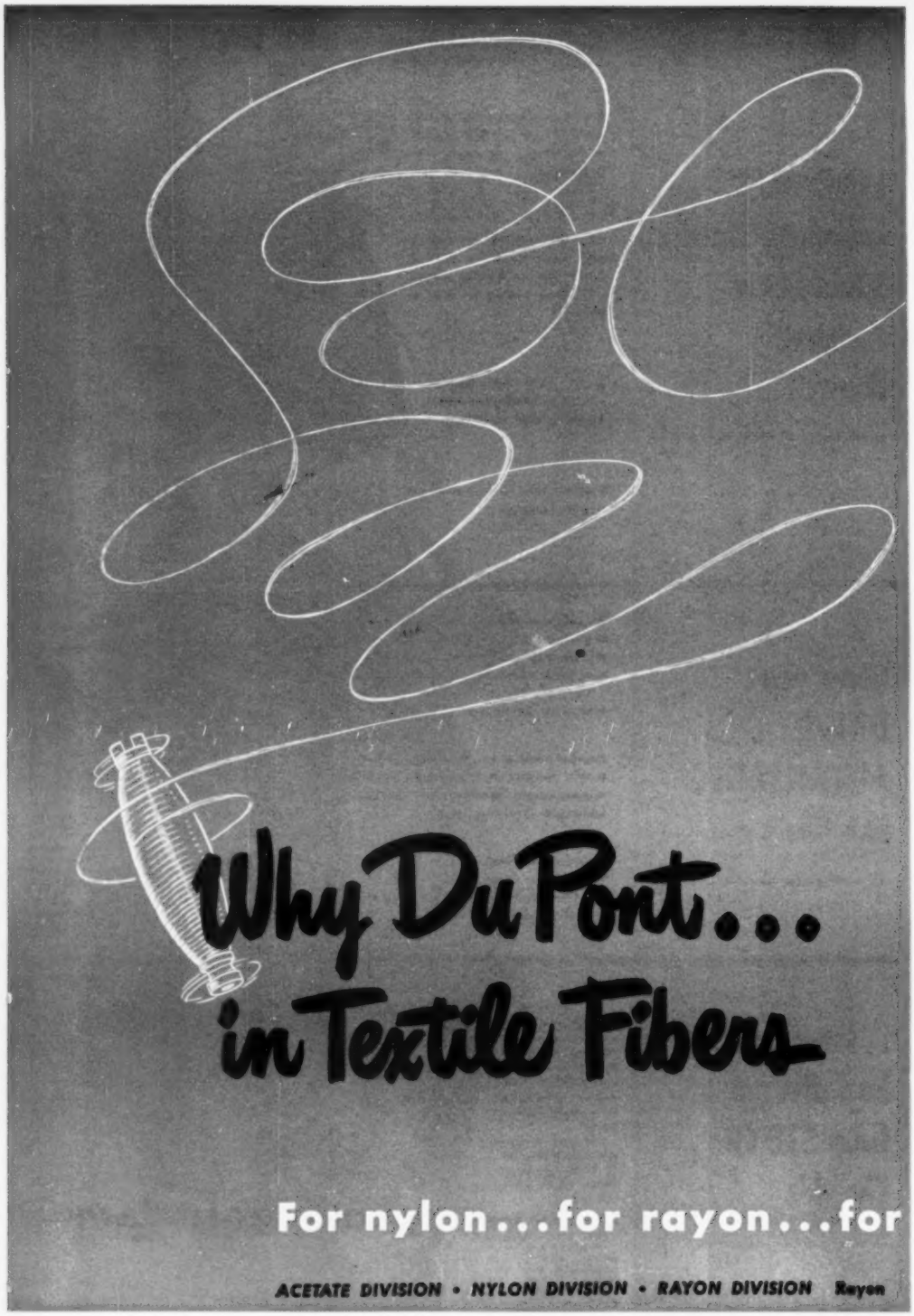
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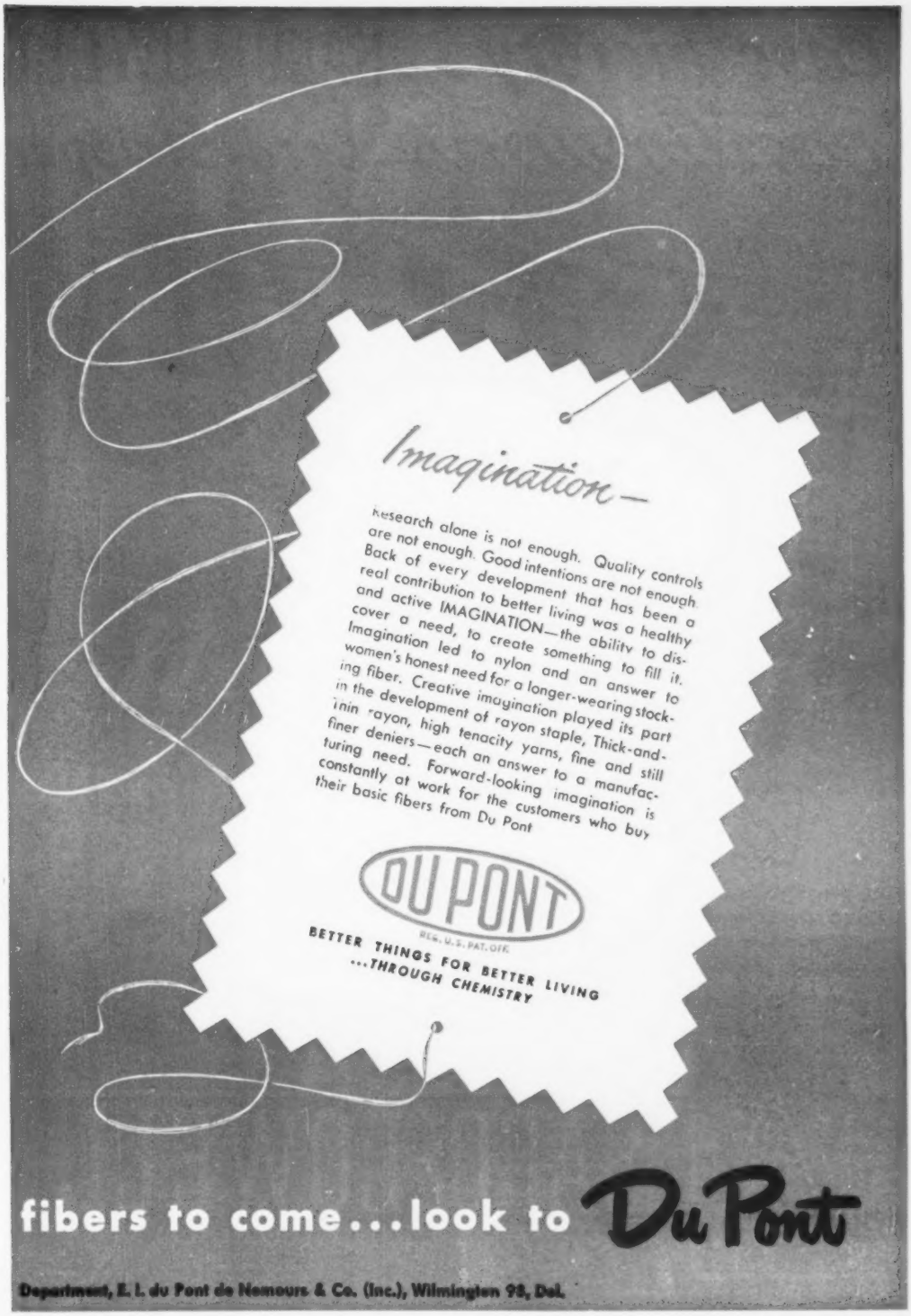
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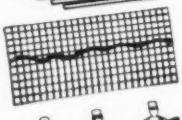

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COMMENTS

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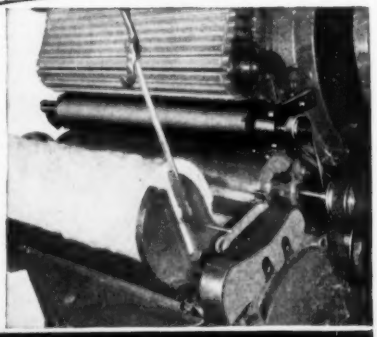

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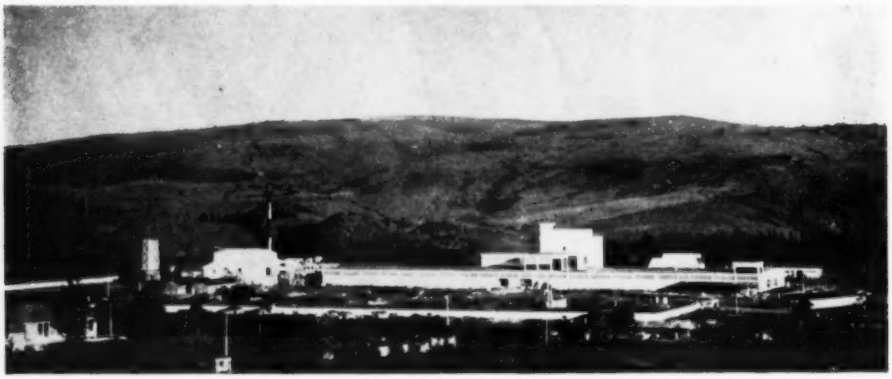
KOHORN



More Rayon for Chile

Rayon made by this modern new plant, the largest in Chile, costs less than imported yarn. This saving and benefit to the country's balance of trade is the result desired by Textile Manufacturers and Investors who promoted and supported construction of the plant.

It was built in seventeen months by Oscar Kohorn & Co., Ltd.—the world's leading builders of rayon plants and rayon machinery. Kohorn experts are technical managers of the plant, until the local staff gains sufficient experience to take over. Since 1948, the plant's output has aided the Chilean textile industry and the national economy.

Domestic markets of other countries can profitably be supplied by local rayon plants. With Kohorn engineering, rayon machinery and technical management a new rayon plant is certain to be built quickly and to produce efficiently, employing local labor and engineers.

Kohorn brings to your project over thirty-five years' skill and experience in Designing, Equipping and Operating complete rayon plants. Write for further information without obligation.

Complete Plants for the manufacture of Filament Rayon, Rayon Staple Fiber and Cellophane equipped in 12 months

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FOR any job you do, there's just one wrench that's *right*. And for V-drives, there's only one right type of V-belt. That's why Goodyear offers the most complete line of V-belts — *featuring a construction to meet every drive requirement.*

For drives where belt stretch and maintenance are problems, there's the exclusive Goodyear development — COMPASS-V-Steel belts with wiry, steel-cable load carriers. If the drive runs at high speed, over small pulleys on short centers, choose a Goodyear belt bodied with single-plane endless cords for high flex-life. If you're having trouble with high overloads and shock stresses, pick a Goodyear belt built around multiple, high-tensile resilient cords. For drives where belts are hard to apply — or for quick emergency replacements — use Goodyear's open-end belting with a special fabric body of high fastener-holding strength.

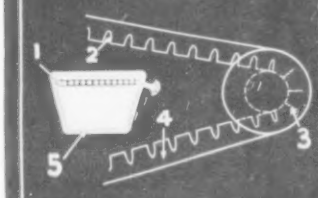
Fitted to your drive by the G.T.M.

When desired, these time-proved constructions can be supplied—built with oil-resistant, heat-resistant or non-static rubber. The G.T.M. — Goodyear Technical Man — will gladly recommend the proper Goodyear V-belt to give you long, trouble-free service at the lowest ultimate cost. Write: Goodyear, Akron 16, Ohio.

FOR HOSE, FLAT BELTS, V-BELTS, MOLDED GOODS, PACKING, TANK LINING *made to the world's highest standard of quality, phone your nearest Goodyear Industrial Rubber Products Distributor.*

GOODYEAR INDUSTRIAL RUBBER PRODUCTS

-Specified COMPASS-V-STEEL BELT



Compass-V-Steel belts (notched) available in A, B and C cross-sections up to and including 112".

Steel Cable belts (unnotched) available in B, C and D cross-sections from 120" to 240" inclusive.

1—Load-carrying section of endless high-tensile steel cables

2—Vents open between pulleys, dissipating heat

3—Vents close rounding pulleys, giving continuous gripping surface

4—Highest quality rubber underbody

5—Sturdy, bias-laid fabric cover resists wear

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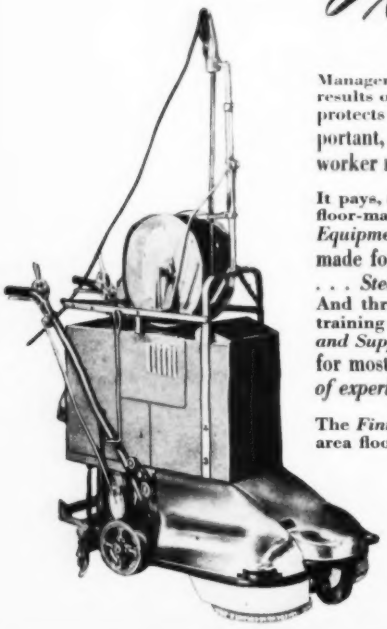
V-BELTS

WHY YOU SHOULD BE . . .

Floor-Conscious



Management should be *floor-conscious* to prevent *floor-neglect*. The results of neglected floors can be costly. Adequate floor care not only protects management's investment in the flooring itself but, more important, aids safety underfoot . . . reduces fire hazards . . . bolsters worker morale . . . aids production. It *pays* to be *floor-conscious*.

It pays, also, to choose a system of floor care that affords an *over-all* floor-maintenance economy! *Finnell* offers such a system, including *Equipment* that exactly fits the individual need . . . *Cleansers* specially made for machine-scrubbing . . . *Sealers* and *Waxes* in specific types . . . *Steel-Wool Pads, Mop Trucks,* and other accessory equipment. And through its nation-wide staff of *Specialists, Finnell* provides for training maintenance operators in the proper use of *Finnell Equipment and Supplies* . . . and for recommending cleaning schedules, et cetera, for most effectual care. These *Specialists* share *Finnell's four decades of experience.*

The *Finnell Self-Propelled Scrubber-Vacuum* at left, for use on large-area floors, applies the cleanser, scrubs, rinses if required, and picks up. Cleans up to 8,750 sq. ft. per hour! Has *silent* vacuum.

For consultation or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 1905 East Street, Elkhart, Indiana. Branch Offices in all principal cities of the United States and Canada.

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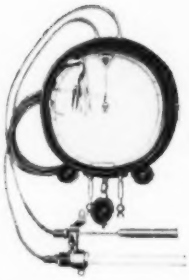

WET AND DRY BULB INSTRUMENTS

These Foxboro instruments give separate wet and dry bulb records on the same chart . . . in dry bulb ranges from 32°F. to 212°F. They are exceptionally accurate and stable. Bulbs can be placed up to 200 feet from the instrument. Available in indicating models and recorders . . . air-operated (Model 40) and electric (Rotax) controllers, including multi-zone and time-humidity controllers.

better measurement of humidity

DIRECT-READING RELATIVE HUMIDITY INSTRUMENTS

Direct-reading relative humidity instruments, in both hair and membrane (gold-beater's skin) types. Sensitive, accurate and reliable.

These Foxboro hygroscopic instruments are designed to operate in temperatures up to 140°F. They are available for indicating, recording (including a portable model), and controlling (pneumatic M-40, or electric Rotax, operated).

NO MATTER WHAT the problem, you have at your command a wealth of experience in the application of humidity instruments and instrument systems to textile processes that only Foxboro can offer you.

Ever since it introduced the first successful long-distance wet-and-dry bulb psychrometer, Foxboro has pioneered in the development of new and improved methods for the measurement and control of humidity. In its engineering knowledge and its *complete* line of better-engineered instruments, there's more than likely the ideal solution to your own problem.

Why not write for complete information, or talk it over with a Foxboro Engineer, now? **The Foxboro Company, 84 Neponset Ave., Foxboro, Mass., U. S. A.**

DIRECT-READING DEWPOINT INSTRUMENTS

Foxboro recently introduced the first simple, continuous dewpoint measuring instruments for industrial use. Their humidity sensitive element, the "Dewcel", requires no water box or moving air. Accuracy is unimpaired by dust or lint. Foxboro recording and controlling instruments, used with the "Dewcel", give direct readings from —20°F. to 160°F. *dewpoint*, at dry bulb temperatures up to 220°F. Readings easily converted to absolute or relative humidity.

Foxboro instruments for dewpoint include liquid expansion type and electronic type recorders and controllers . . . with either pneumatic or electric control action. The Multi-Record Dynalog for Dewpoint provides up to 6 records on a single round chart.

FOXBORO HUMIDITY CONTROL

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...BY VERNEY

The idea came from the stagecoach days—the recollection of the coachman's greatcoat, perched up out of the dust. The fabric is Verney's faille Caprice . . . the yarn, acetate and viscose rayon.

Garments like this have a look of quality that must be protected by everlasting color beauty—which is why Verney Fabrics Corporation is one of the many textile leaders using Sandoz dyestuffs.

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And for any chrome, acid or direct dyes . . . or auxiliary chemicals . . . for both natural and synthetic fibres . . . be guided by the successful "color achievements" you see in these Sandoz advertisements.

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SANDOZ *thinks ahead with textiles*

SANDOZ

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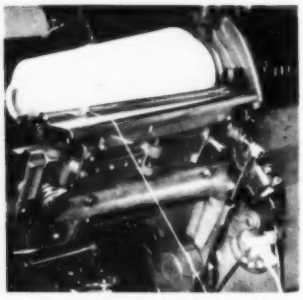
...to protect the quality and insure the uniformity of Universal *"PreciseWind"* Cones



No. 50 Positive Sizing Attachment

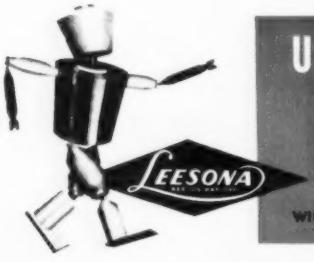
You can attribute the world-wide preference for the Universal method of precise-winding to many things – and one of them is its adaptability to a great variety of winding requirements.

Where absolute uniformity of packages is desired, the machine is equipped with the Positive Sizing Attachment which is so accurate that it will knock off the spindle within one layer of the predetermined size.

This is accomplished without exerting *any pressure on the package* itself.

The accuracy of the attachment is such that should the machine be left unattended, the spindle can be depended upon to knock off automatically when the package reaches full size.

The Positive Sizing Attachment can be installed on any No. 50 machine now operating and will accommodate any type of yarn.



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WINDING AND TWISTING MACHINERY FOR NATURAL AND SYNTHETIC YARNS

Universal Precision Winding USED FOR MORE THAN 90% OF ALL SYNTHETIC FILAMENT YARN ON CONES

Learn these Definitions

rayon

A textile fiber made of *regenerated cellulose.* (Example: viscose.)

estron

A textile fiber made of an *ester of cellulose.* (Example: cellulose acetate.)

● These separate and distinct names for the two major types of man-made fibers are recommended by the Committee on Textiles of the American Society for Testing Materials, the membership of which includes many leading manufacturers, distributors, and users of textile products.

Tennessee Eastman will follow the ASTM recommendation and identify its cellulose acetate fibers as *estron*, not rayon.

Tennessee
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SUBSIDIARY OF EASTMAN KODAK COMPANY

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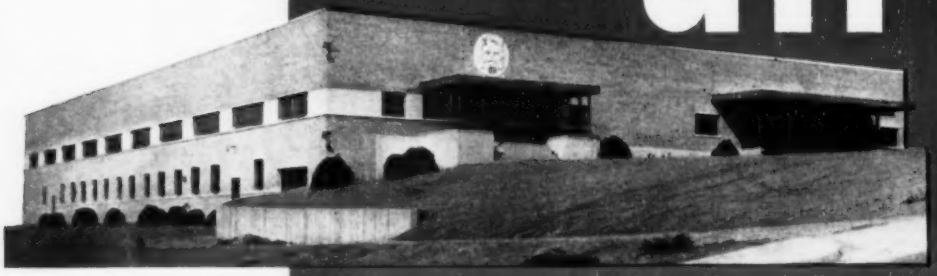
New building

New equipment

all Atwood

Throwing Machinery



This new plant of Belding-Hemingway-Corticelli at Morristown, Tenn. is as modern inside as it looks outside. It is Atwood-equipped throughout to produce synthetic and combination yarn for its own use and customers' use.

Redraw

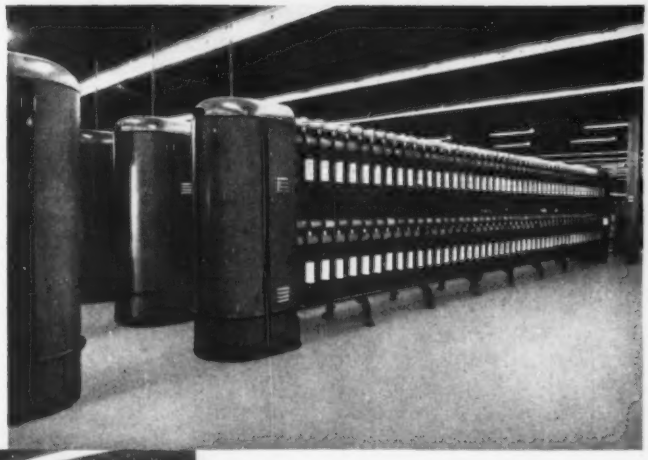
High speed, accurate tension control

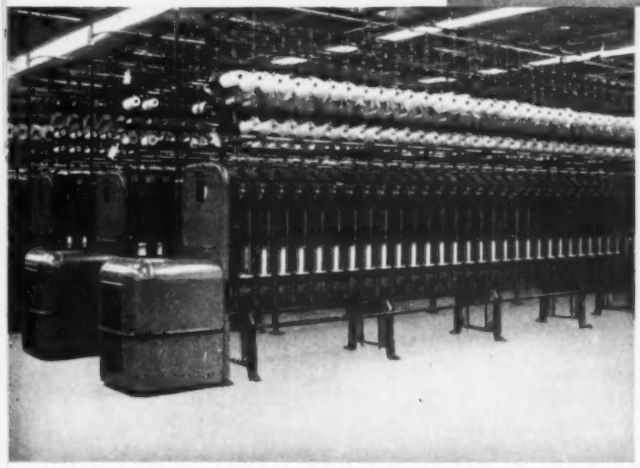
The redraws are Atwood Model 200's, which can process all types of synthetic yarns at a high rate of yards per minute. Accurate control of tension is achieved through use of the disc tension device. Drive and traverse mechanism are totally enclosed. The speed is quickly and precisely regulated by the variable speed drive.

Up-Twisting

Accurately positioned takeup

The up-twisters are Atwood Model 110's. Special design of bobbin hanger maintains positive alignment between the cork rollers and takeup bobbins, insuring straight wound bobbins. Spindles, pivot swings and anti-wear spindle brakes are mounted on a heavy, longitudinal, pre-spaced spindle rail which insures rigidity of the frame. One endless, lapless belt for uniform, vibrationless spindle speed.





Ring twisting

Automatic stop motion for each end and ply

The ring twisters are Atwood Model 10's equipped with magazine creel, individual stop motion for each spindle, rigidly mounted rings and holders, and full length spindle separators. The stop motion built into the feed roll units stops both feed rolls and the spindle, simultaneously. Knots can be tied in single ends, avoiding roller laps and drop ply. One endless, lapless belt gives uniform, vibrationless spindle speed.

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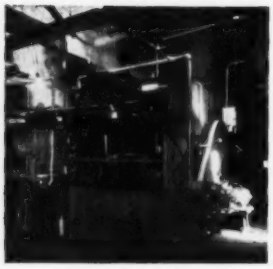
Winding and Twisting Machinery for Natural and Synthetic Yarns

UNIVERSAL *with its Atwood division, builds a complete line of* **THROWING MACHINERY**

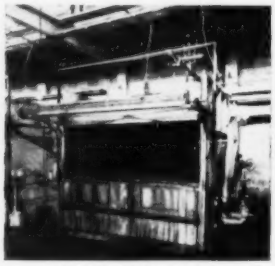
The Fleet Line

TLBT PIECE DYEKETTLE

An Extremely VERSATILE Machine



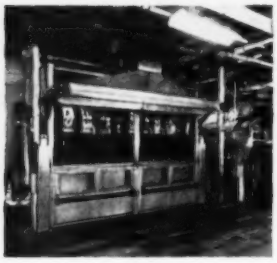
Plushes At
A New England Mill



Men's Wear At
Lymansville Co.

Women's Wear At
Gonic Manufacturing Co.

Heavy Knitted Fabrics At
Draper Brothers Co.



Heavy Woolens At
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Blankets At
North Star Woolen

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- Tangles, tie-ups, wrinkles, creases and dye streaks virtually eliminated.
- Knurled drum reel absolutely eliminates slip, even on rayon gabardines.
- Dyestuff savings up to 10% compared with other stainless kettles, much more with wooden types.

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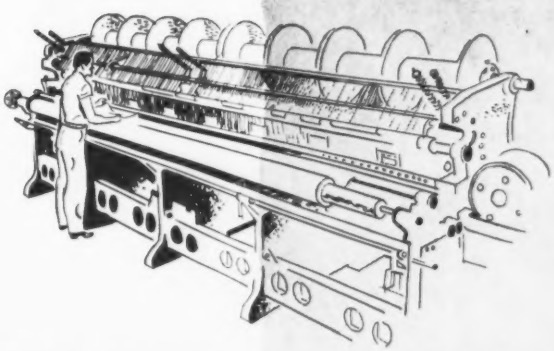

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Warp knitting machines run faster when moving parts are made of aluminum. That's not all. Lightweight aluminum reduces vibration and bearing wear. Aluminum parts are shock resistant, last longer.

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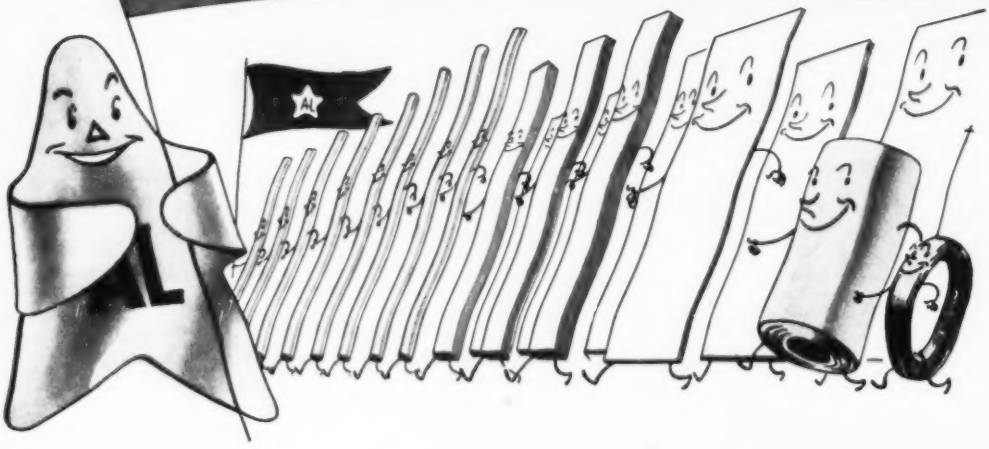

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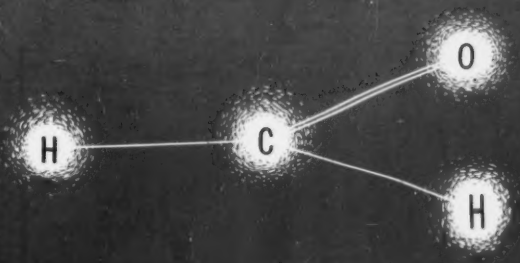

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because they

Cut out 3 operations

One of the outstanding advantages of Aridye® Pigment Colors is that they require no after-treatment to develop the final shade.

This means that for single-color work and multi-color patterns which can be printed with Aridye Pigment Colors alone, you can eliminate all ageing or steaming and soaping operations and cut out one drying process. After printing, the fabric is merely dried and then heat treated on an enclosed tenter or other suitable equipment.

The savings in steam, chemicals and time can easily be calculated. In addition, the troubles frequently encountered in ageing are entirely avoided. Cutting out three operations speeds up production and allows quicker deliveries. An Interchemical technical representative will be glad to discuss with you in detail the many ways in which Aridye Pigment Colors can be of benefit to *you*.

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Uniformity of shade
Top fastness to sunlight
Fastness to washing
Bright colors
Ease of application
No impairment of hand
Can be used in combination with ordinary dyes

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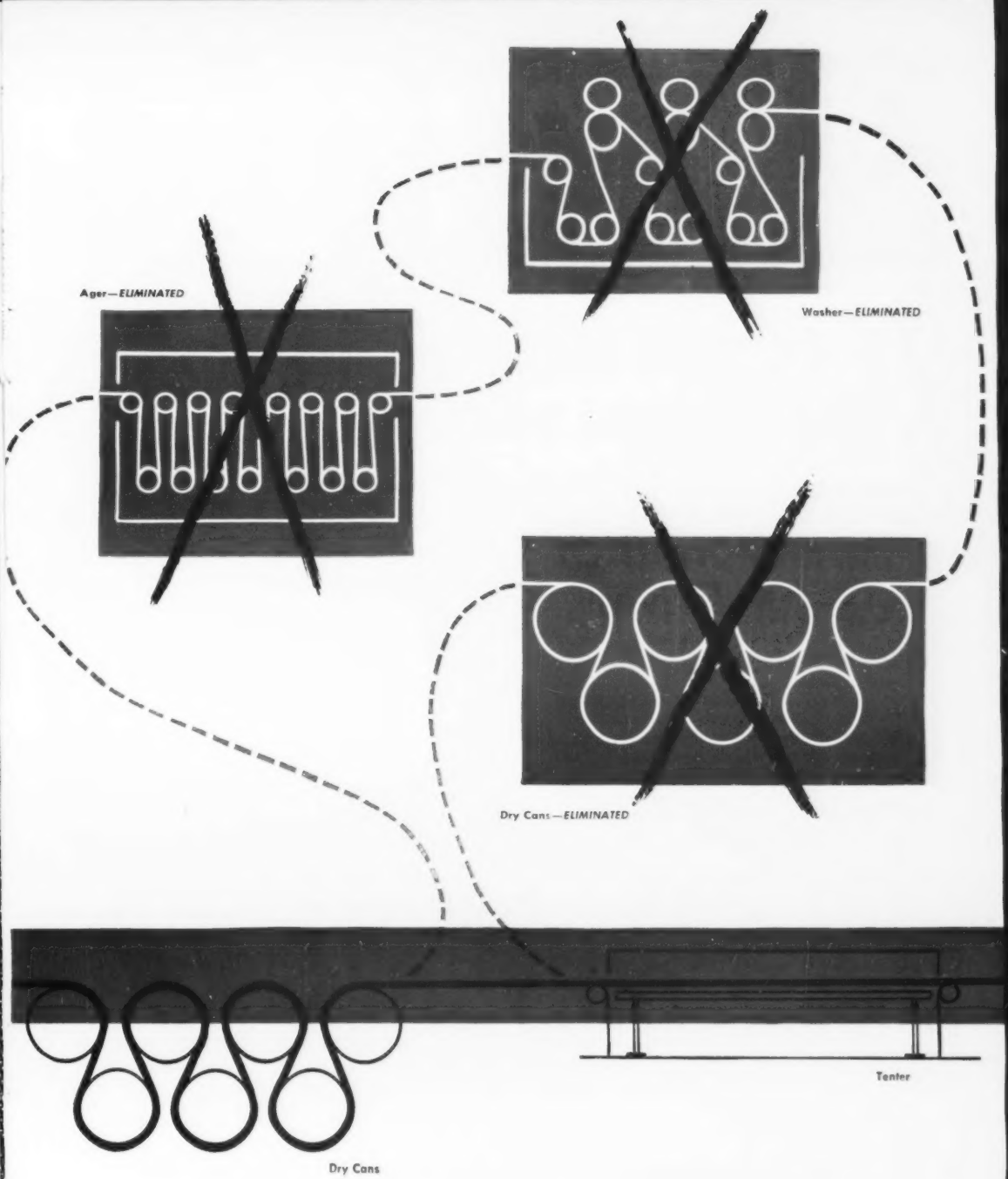

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Pigment colors

3 Ways to Cut

1. PRODUCE MORE PER MACHINE HOUR

with Vari-Pitch Drives

QUICK EASY SPEED CHANGES and accurate speed control will give you more production, reduce your unit costs. The simplest method of speed control is Vari-Pitch Drive. Simple, rugged, clean, quiet — these drives give you the speed control you need at lower cost than any other way. Three types cover all applications.

STATIONARY CONTROL — Most widely used and lowest cost speed control. Change speeds in 5 to 8 minutes. Speed range of 50% to 100%.

MOTION CONTROL — Changes speed instantly *while machine is running*. Same 50% to 100% speed range. Greatest saving where speed changes are frequent.

SPEED CHANGERS — Fully enclosed multiple V-belt drive with special sheaves giving 375% speed range. Single handwheel adjusts *while running*.

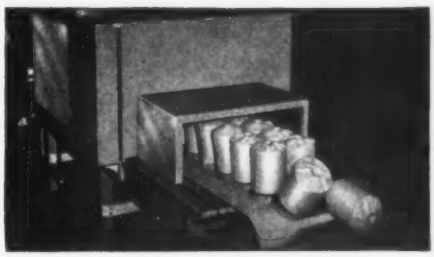
You can figure the saving in dollars and cents with the help of your Allis-Chalmers Authorized Dealer or District Office representative. He will help you analyze your operations and show you time and cost savings in your own production setup. Consult an Allis-Chalmers drive expert today. Also listed in Sweet's.

A 2644

Texrope, Vari-Pitch and *Quick Clean* are Allis-Chalmers trademarks.

Costs FOR TEXTILE MEN!

2. SPEED HEATING AND DRYING *with Allis-Chalmers Dielectric Heaters*



DIELECTRIC HEATING has resulted in outstanding production records in many textile mills. Its chief advantages are: Increased speed, which smooths out production sequences and reduces stock in process. . . . Close heat control, which improves product quality greatly. . . . Even heating throughout, which improves product uniformity. *Allis-Chalmers Dielectric Heaters produce results that cannot be duplicated by any other process.*

Typical Examples: Drying reduced from days to minutes. Shrinkage variation below 0.4%. Twist set in minutes with definite improvement in tensile strength.

Go over your production methods with an Allis-Chalmers dielectric heating expert. He can tell you if your operations can be improved by this new method. He will show you cost figures based on your operations. You can't afford to miss this opportunity. Contact your A-C District Office or write direct today.

3. REDUCE MAINTENANCE COST *with Allis-Chalmers Textile Motors*

QUICK-CLEAN MOTORS

Less down-time for cleaning because large fans produce a greater volume of air and keep lint moving through unrestricted air passages. There is no place for dirt to lodge. Bearings are sealed — they may be operated five years without attention. Grease does not leak out. Available from 2 HP at 1200 rpm to 15 HP at 1800 rpm. Some in stock, others on quick delivery.

LOOM MOTORS

Totally enclosed, non-ventilated type. They have all of the operating characteristics required for efficient loom drive: high maximum torque . . . smooth power under rapidly changing load . . . extra overload capacity for breaking-in operation.

In addition, these motors have construction features necessary for long life and minimum maintenance. Anti-friction bearings . . . die-cast rotor, accurately turned and balanced . . . "Formvar" copper wound stator, twice dipped in insulating varnish and oven-dried.

Immediate delivery on ¾ and 1 horsepower ratings.

ALLIS-CHALMERS, 1056A SO. 70 ST.
MILWAUKEE, WIS.

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ALLIS-CHALMERS

Originator of the Multiple V-Belt Drive for the Textile Industry

How NOPCO* FUA

cuts your wool processing costs

3% **OF NOPCO FUA**

applied to stock is all you need—3 lbs. NOPCO FUA per 100 lbs. wool—as against

8% **OF CONVENTIONAL WOOL OILS**

This tremendous differential is only one of the reasons why this initially *higher priced* product is proving the *most economical* of all wool oils in actual performance. Other reasons are

100% **ELIMINATION OF SOAP**

NOPCO FUA *eliminates the need for all soaps and detergents* in fulling and scouring. It also stops static completely during carding. It does not rust or corrode. NOPCO FUA is anhydrous, all fatty, contains no mineral oil or hydrocarbons—is salt free and ash free.

What these percentages mean to YOU

They mean . . . increased production quality and volume, valuable savings of time and equipment, reduced cost of *all* operations. Try NOPCO FUA in your mill. Give your woolens the benefit of its many exclusive advantages, its unparalleled versatility.

NOPCO

SEND FOR NOPCO FUA TECHNICAL BULLETIN

Mail coupon today and get *all* the facts about NOPCO FUA's versatile aid to better wool processing.

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Formerly National Oil Products Company

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*Reg. U. S. Pat. Off.

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SELF-FULLING SELF-SCOURING WOOL OIL

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Please send, without obligation, your NOPCO FUA Technical Bulletin.

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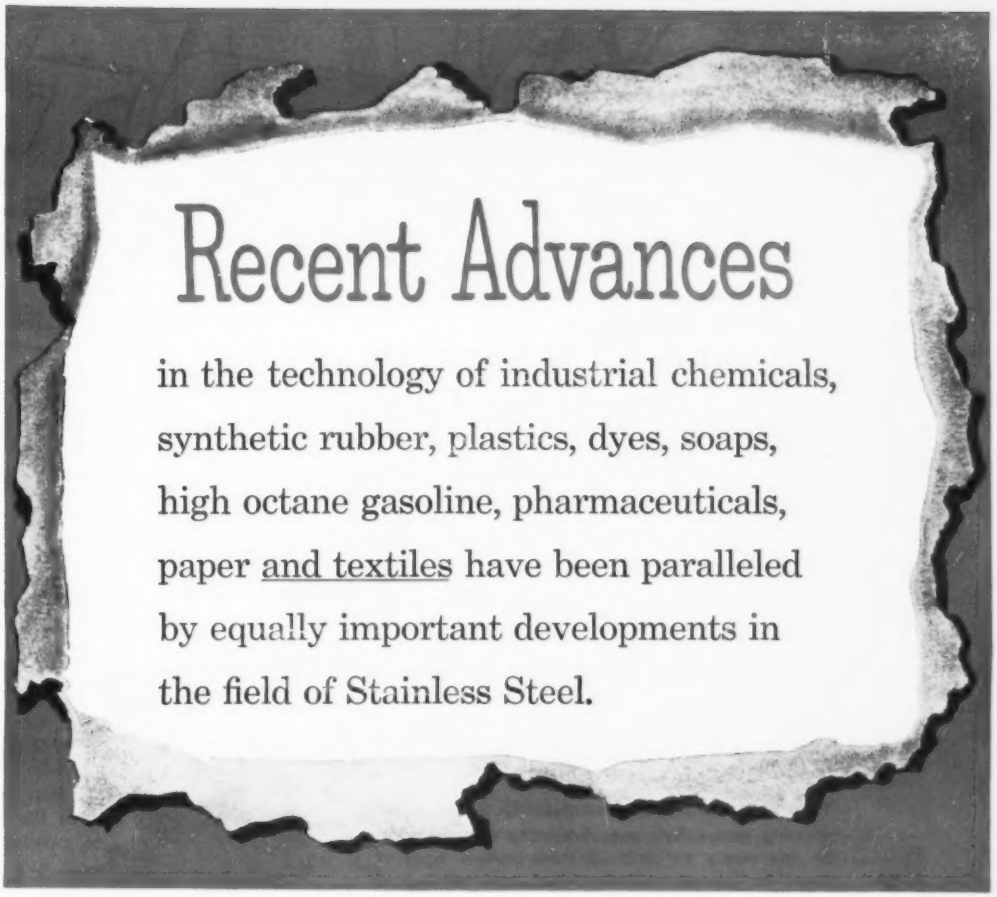
Recent Advances
in the technology of industrial chemicals,
synthetic rubber, plastics, dyes, soaps,
high octane gasoline, pharmaceuticals,
paper and textiles have been paralleled
by equally important developments in
the field of Stainless Steel.

THE versatility of this superior corrosion-resisting and heat-resisting steel group has in recent years been constantly extended so that it is generally safe to say:—*the more severe the service the greater the need for Stainless Steel.*

In U·S·S Stainless Steel we offer perfected, service-tested Chromium and Chromium-Nickel Stainless Steels, not only in different analyses but in the most complete range of forms, sizes and surface finishes available anywhere.

Our engineers, who are specialists in the use of stainless steels, have behind them the research and laboratory facilities of the world's largest producer of fine steels. These facilities are available to tackle your problems where they involve severe or unusual applications.

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SHEETS · STRIP · PLATES · BARS · BILLETS · PIPE · TUBES · WIRE · SPECIAL SECTIONS

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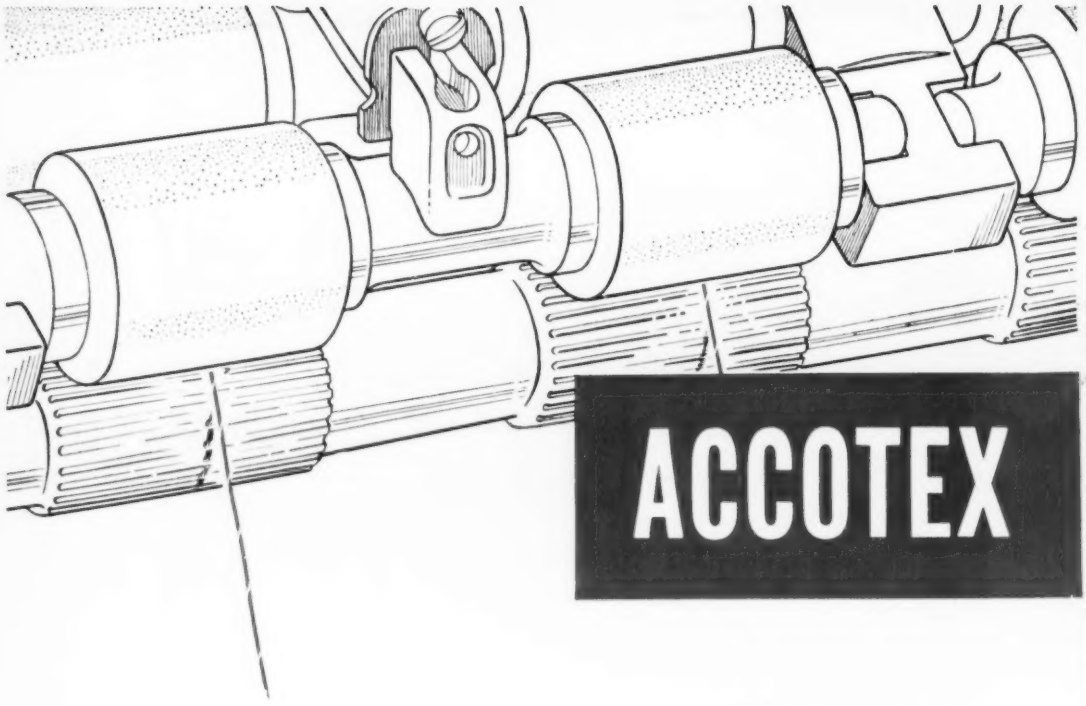
UNITED STATES STEEL

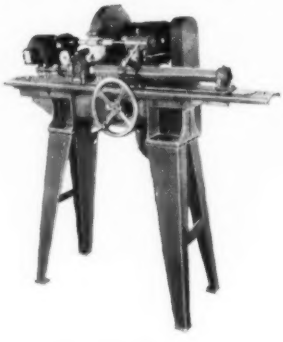


ACCOTEX

EQUIPMENT FOR EVERY ROLL SHOP NEED

You can get everything you need for complete roll covering service from your Armstrong representative. He can supply not only all three modern types of covers but also the roll shop equipment required to apply and service them.

ASSEMBLING MACHINE:
Hand-operated. Facilitates accurate, speedy assembly of ready-glued cork or synthetic cots to spinning and card room rolls. Handles cots up to 4½" long.

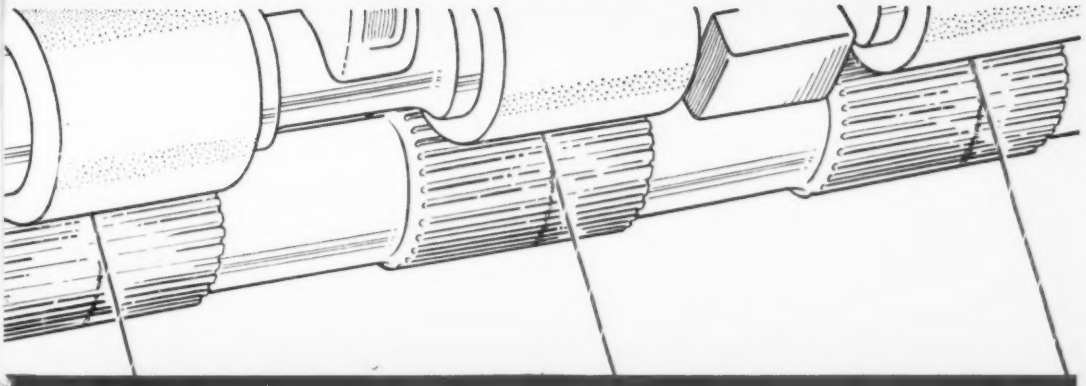


BUFFING MACHINE:
Precision-buffs all modern types of cots. Adjustable for lengths and diameters of rolls ordinarily used.

PNEUMATIC ASSEMBLING MACHINE:
Quickly, inexpensively applies long cots to comber, drawing, ribbon lap, and sliver lap rolls.

ROLL TESTING GAUGE:
A paralleling device used to guide the setting of the buffing machine and to check trueness of rolls after they have been buffed.

ACCOTEX COTS
CORK COTS



COTS RESIST LAPPING

Armstrong discovery shows that cots containing electrolytes won't attract fibers.

BECAUSE Armstrong's Accotex® Cots contain electrolytes, they virtually eliminate lapping as a mill problem. An Accotex J-490, for example, doesn't tend to lap even when running wool and synthetics on cotton system equipment. The same is true for long staple cottons. Their long wiry fibers won't stick to lap-resisting Accotex Cots.

This exclusive anti-lapping feature of Accotex Cots was developed by Armstrong scientists. They found that cots made of compounds containing certain electrolytes ran with almost no lapping.

In the course of their research, it was learned that static electricity—once thought to be the cause of lapping—actually has little to do with it. Instead, lapping is caused by electrokinetic forces present in the invisible film of water deposited on cots and fibers by the humid air in mills. When cot and fiber are pressed tightly together, these forces attract the fibers. Thus broken ends tend to lap up on the top roll.

Electrolytes effectively eliminate this attraction of the water film. Armstrong now has perfected an electrolyte-modified cot for every type of mill service. All Accotex covers offer this feature.

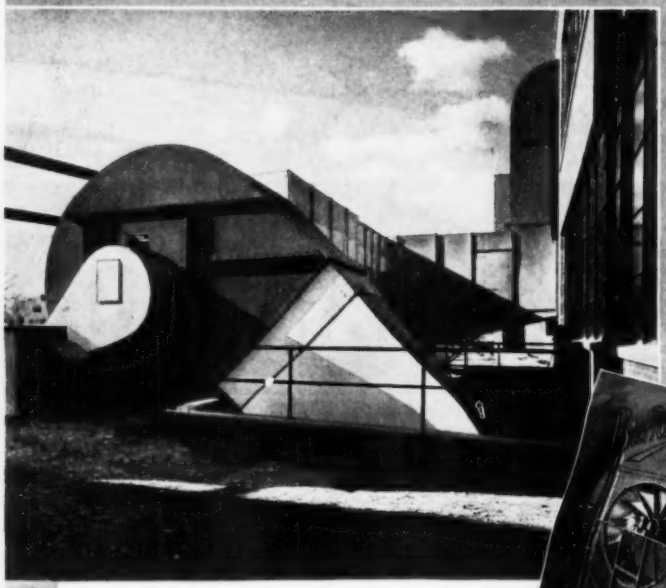
Other advantages of Accotex cots:

1. **Unaffected by temperature or humidity changes**
2. **Not affected by oil, water, dyes, or commonly used textile solvents**
3. **No seams. No structural weaknesses to cause failure in service**
4. **Long initial service. Can be rebuffed 5 or more times**
5. **Will run unvarnished on rayon and combed drawing and roving frames**
6. **Produce less clearer waste . . . reduce ends down**

Whether you're drafting cotton, wool, or synthetics, Armstrong can supply you with an Accotex roll cover specifically designed for the job. Your Armstrong representative will gladly arrange a test run in your own mill. Write to Armstrong Cork Company, Textile Products Department, 8305 Arch Street, Lancaster, Pennsylvania. Accotex is available for export.

ARMSTRONG'S ACCOTEX COTS

DEPENDABLE AIR -



Profit Tool For Textiles

"Buffalo" FANS ARE HELPING MANY MILLS PRODUCE MORE EFFICIENTLY

Keeping workers more comfortable and productive—improving quality control—these are two all-important profit jobs "Buffalo" Limit-Load Fans are doing for hundreds of textile mills. These quiet-running fans are giving satisfactory, economical service on: (1) exhausting excess moisture, (2) supplying air washers and air conditioning units, (3) scores of straight ventilation applications. WRITE FOR BULLETIN 3675, above, and see how "Buffalo" Limit-Load Fans can help "condition" YOUR plant for higher efficiency!

A FEW OF THE MANY USERS OF "BUFFALO" FANS INCLUDE: Cetwick Silk Mills, Davenport Hosiery, Hatch Full Fashioned, Humboldt Hosier, Judson Mills, Laurens Hosiery, Mid State Cloth and Mills Mill.

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VENTILATING FORCED DRAFT | AIR WASHING COOLING | AIR TEMPERING HEATING | INDUCED DRAFT EXHAUSTING PRESSURE BLOWING

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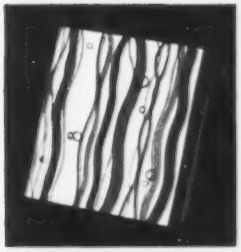
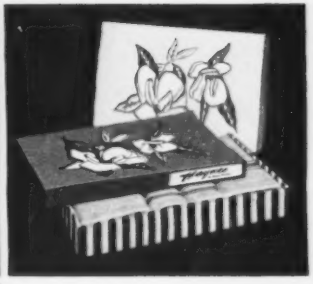
Quality packages

tell the story





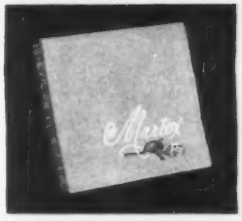
of precision

printing,

color control

and superior

construction.



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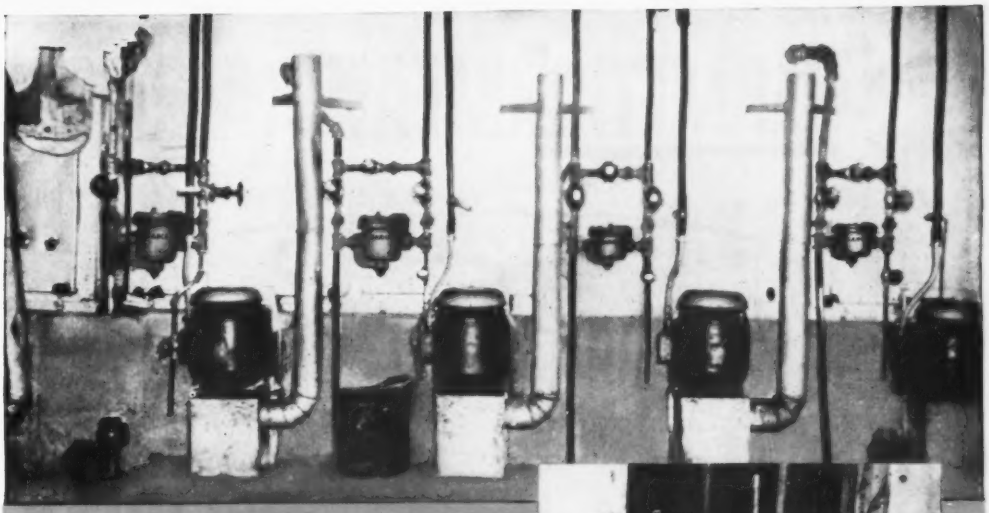
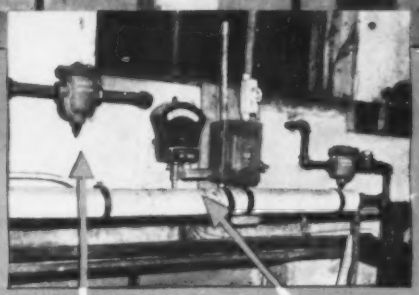


PRECISION *Dyeing* WITH SARCO

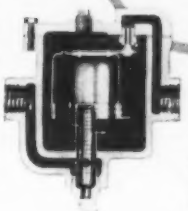


To make a profit in the textile finishing industry the work must keep moving and the colors must come out right. This means temperatures must be kept up in the drying boxes and very exact in the dye jigs, boxes and padder cans.

The top illustration shows how the steam coils in a large dry box are kept hot regardless of the amount of work going through. A Sarco Bucket Trap drains each coil.

At the right is the Sarco LSI Electric Control on the dye cans for the padders. This control is inexpensive and suitable for every step in the dyeing process. It keeps temperatures within a degree of the setting which may be changed instantly as many times as required for a single run of cloth.

Like most Sarco Products, these devices save three ways: in increased production, fewer rejects, and lower fuel cost. They provide flexibility of controlled temperature from rinse to boil-off. They pay for themselves in a few months. The Sarco Representative near you can show you how.



BUCKET

THIS IS THE STEAM TRAP

that can handle large volumes of condensate rapidly and efficiently. Built-in strainer and straight through connections reduce cost of installing. Ask for Catalog No. 350

THIS IS THE CONTROL

that keeps temperature right in the textile, food, chemical and plating industries. Ask for Catalog No. 1025

LSI

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SARCO

SAVES STEAM

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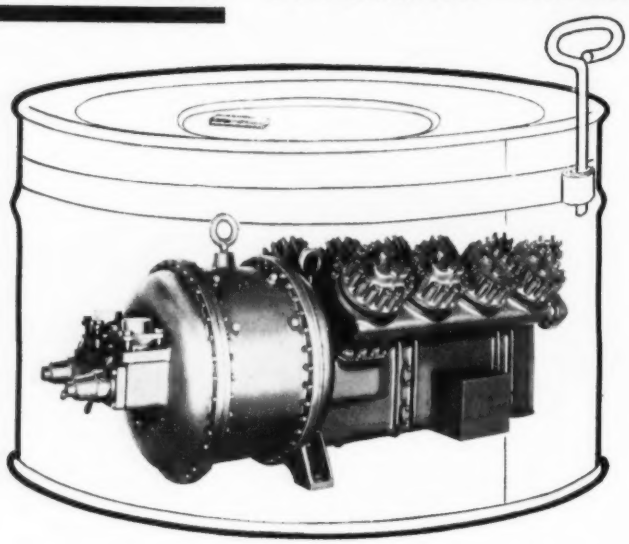
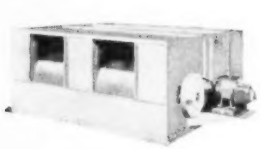
"HERMETIC" MEANS AIRTIGHT



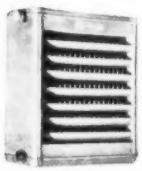
No other air conditioning compressor can match the Westinghouse record of dependability. Because this *hermetically-sealed* compressor means no costly refrigerant leaks. It also means that system-damaging grit, moisture, rust and corrosion are *sealed out.* Westinghouse pioneered the development of the *hermetically-sealed* compressor and direct drive for power economy—no belts, no pulleys, no shaft seals. Power is provided by a sealed-in, Westinghouse Life-Line motor—famous in its own right as stronger, longer-lived and trouble-free.

These facts mean better air conditioning performance, longer over-all life, fewer breakdowns . . . lower maintenance costs. Thousands of installations, from 1 to 500 HP, have proved that the Westinghouse *hermetically-sealed* compressor gives *you* more for your air conditioning dollar. It'll pay to check with your nearest Westinghouse Air Conditioning Distributor. Or, write to the Westinghouse Electric Corporation, Sturtevant Division, Hyde Park, Boston 36, Massachusetts.

Westinghouse
Sturtevant Division



AIR HANDLING UNITS



UNIT HEATERS

CENTRIFUGAL FANS

AXIAL FLOW FANS

...THAT'S WHY THE WESTINGHOUSE HERMETICALLY-SEALED COMPRESSOR MEANS MORE FOR YOUR AIR CONDITIONING DOLLAR

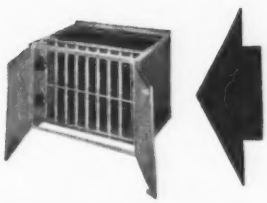
REFRIGERATION COMPRESSORS

EVAPORATIVE CONDENSERS

HEATING AND COOLING COILS

UNIT AIR CONDITIONERS

BLOWER HEATERS



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They hit it "On the Nose"

—with their eyes, ears and mouths

The Not-So-Musical-Note Test

A rock driller has an ear for his drill. And it is an ear that must know the true pitch . . . because the best way to tell if a drill is operating most efficiently is by the *sound*, not the feel, of the drill.

The Hot-Flash Test. It's really amazing, but by watching the color of the gas blowout from a Bessemer converter, the keen sharp eye of an expert steel man can always tell when the process is completed.

The Sip Test. A big trade depends on a tiny sip . . . and tea companies pay high salaries to men just to sip or sniff. Accurately, the sensitive palates of these tasters can always tell tea at its best.

The Cover Test

When a one coat job is all that is necessary to make the interior of your plant look like new, what paint will do the job best? Don't guess. Test! Compare any good paint with Barreled Sunlight. Paint a few square feet with each, side by side on a wall. The next morning, when the paint is dry, your eye will plainly tell you that Barreled Sunlight covers better. Yes, and *Barreled Sunlight will last longer, will stay fresh-looking longer, will cost you less for both PAINT AND LABOR than any other paint on the market.*

Want positive proof? Write and your nearest Barreled Sunlight representative will show you exactly what we mean.

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Paints

In whitest white or clean, clear, pleasing colors, there's a Barreled Sunlight Paint for every job

EMBRACING ALL SYSTEMS OF WOOLLEN CARDING

For every class of work, the set of cards recommended can be relied on to give the highest production compatible with quality. For existing carding sets in good condition, rapid modernisation, affecting feeds and condensers, assures an improvement in both production and quality.

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winding faultless bobbins *fully automatically*

This is the HACOBA that *you know*. It's the original machine, that set production records for fully automatically winding for cotton, wool or rayon yarns. It's the world famous winder that has proven its worth by producing faultless bobbins, pirns, tubes or quills with a change-over time of only 4 to 6 seconds. It's the winder that can increase your production while lowering your overhead.

Write for complete technical details and photos of the HACOBA in operation.

THE ORIGINAL HACOBA FILLING WINDER

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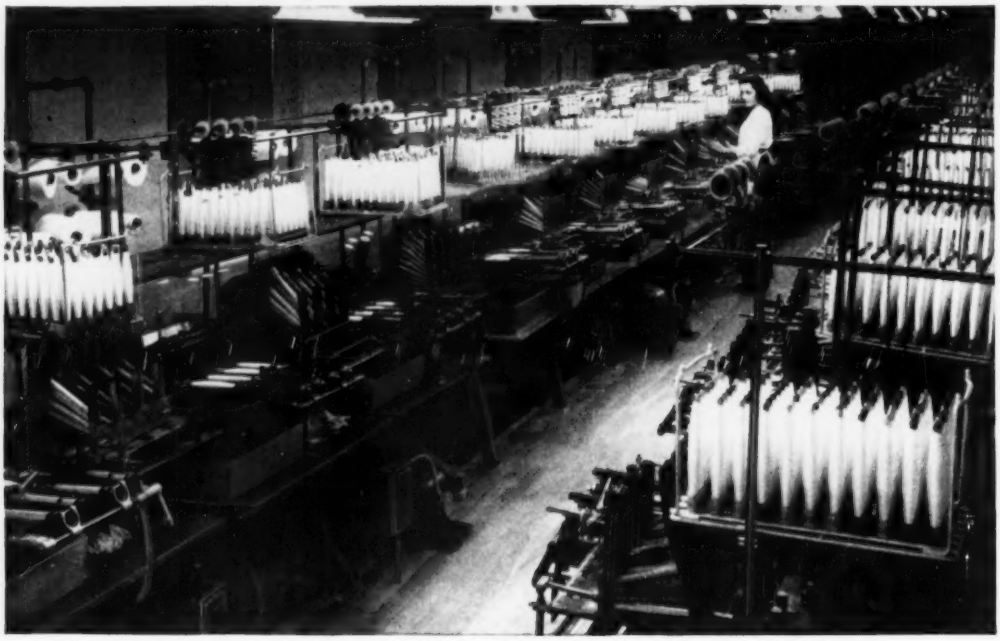

Prompt Delivery

The Automatic Bunch Builder attachment operates automatically at high speeds, building traversing or stationary bunches of up to 18 yards. The original HACOBA is still the leader, still the most satisfactory and economical winder.

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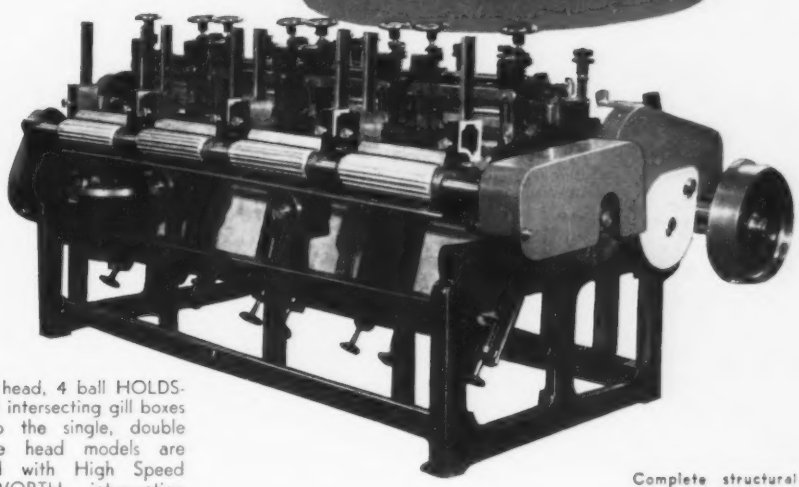
INTERSECTING GILL BOXES

ADAPTED FOR BACKWASH & DYE HOUSE GILLING



These 4 head, 4 ball HOLDSWORTH intersecting gill boxes and also the single, double or triple head models are equipped with High Speed HOLDSWORTH intersecting gill screws and the patented HOLDSWORTH intersecting fallers. They are available for prompt delivery.

Complete structural and operational data will be sent on request.

Orders for SADDLE BLOCKS — CONDUCTORS — all types of BEARINGS — COMPLETE FALSE TWIST MOTION ASSEMBLIES — SADDLES — WATER MOTIONS — CALENDER ROLLS — DRAWING OFF ROLLS — FALLERS — and all other perfectly machined parts and accessories for all makes of Intersecting and Open Gill Boxes will be promptly shipped.

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★ *High Production*
★ *Ease of accessibility and setting*
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features of

THE *rectilinear* OR FRENCH COMB

for wool and other fibres

FOR ALL YOUR MACHINERY REQUIREMENTS IN

worsted

We are able to offer complete plants on the French or Continental systems incorporating the above machine

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Mount Every Kind of Textile Machine on

UNISORB

...AND

Save Your Floors From Drilling!

Saco-Lowell opening machines mounted on UNISORB at Anchor Rome Mills, Inc., Rome, Ga., without bolts or lag screws.

UNISORB-mounting . . . the *modern* way to anchor every kind of machine on every kind of floor . . . is the anchoring method that requires no bolts, no lag screws, none of the floor damage that goes with old-fashioned anchoring methods.

MOREOVER . . .

UNISORB absorbs from 60% to 85% of transmitted vibration and noise, often permits higher speed machine operation.

UNISORB saves installation time and money.

UNISORB mounting lasts for many years — requires no maintenance.

For these and other reasons, it will pay you to know the full story behind UNISORB machine mounting.

Clip this coupon or write us on your letterhead... *today.*

THE FELTERS COMPANY

210-W SOUTH STREET, BOSTON 11, MASS.

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THE FELTERS COMPANY
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Gentlemen:

Please send my free copy of "Why It Pays to Anchor Your Textile Machinery with UNISORB." ( )

Please send my free copy of "Felters Precision Cut Felt Parts Manual." ( )

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YOU GET MORE BEAMS

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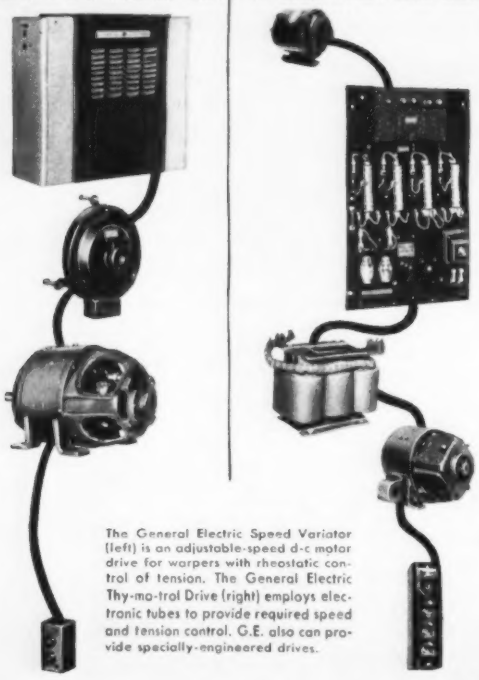
THERE'S A G-E WARPER DRIVE TO MEET EVERY MILL NEED!



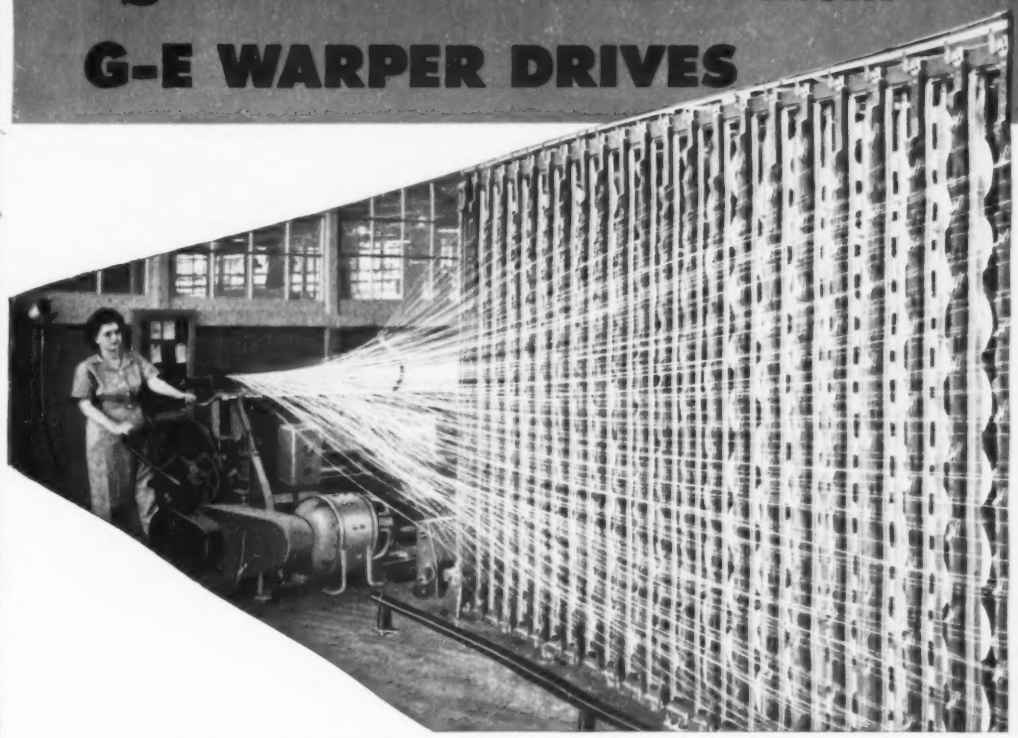
The General Electric Speed Variator (left) is an adjustable-speed d-c motor drive for warpers with rheostatic control of tension. The General Electric Thy-mo-trol Drive (right) employs electronic tubes to provide required speed and tension control. G.E. also can provide specially-engineered drives.

Here's what you get with a G-E Warper Drive!

1. Constant, accurate control of yarn tension
2. Higher warping speeds
3. Smooth, fast acceleration and deceleration
4. Low jogging speed for quick, easy threading
5. Wide speed range
6. Space-saving design
7. Low maintenance cost

right tension on all of them

G-E WARPER DRIVES



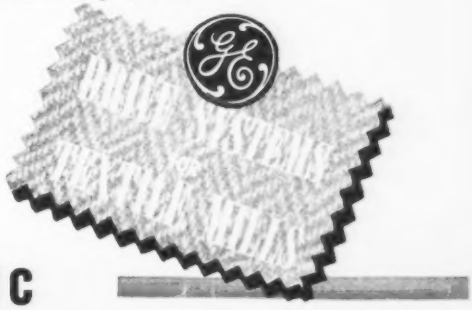
Today, warping must be handled faster than ever before. Yet, many operators are faced with the problem of how to step up warping speed and still maintain the close control of yarn tension so necessary to the production of high-quality fabrics. The answer is—a General Electric all-electric Warper Drive.

first This drive makes high-speed warping entirely practical by providing constant, accurate control of tension throughout the beam diameter buildup. Your operator can run his warper at higher speeds with tension within close limits at all times.

second You get more yarn per beam with a G-E Warper Drive because the top limit in tension can be approached without risking loss of adequate yarn "stretch."

third The warper can be stopped and started faster, thereby cutting down on the time lost in finding and tieing broken ends. Your production is up and the cost of finished cloth is down!

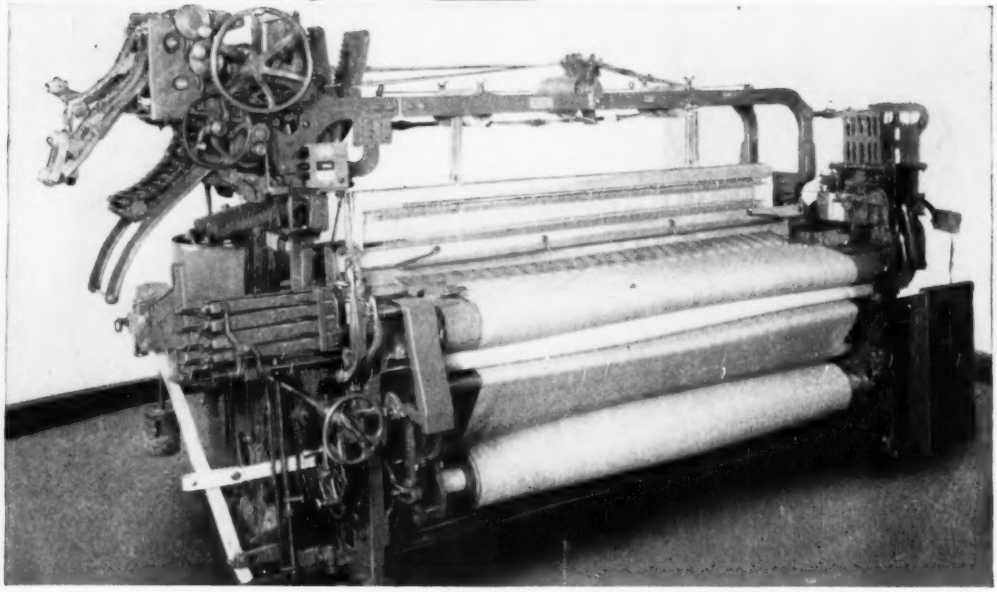
ASK YOUR WARPER MANUFACTURER!—Many warper manufacturers are working with General Electric textile mill specialists to help you get more and better warp beams through the use of modern warpers equipped with all-electric drives. One of them will be glad to make a study of your warping problems. For more detailed information on G-E Warper Drives, write today for a copy of GEA-5238. *Apparatus Dept., General Electric Company, Schenectady 5, N. Y.*



GENERAL ELECTRIC

654-4

NOW...GREATER PROFIT-PROTECTION



from these ***NEW C&K W-3 ALL-PURPOSE LOOMS***

Swiftly shifting market conditions find mills thoroughly fortified, profit-wise, when their weave rooms are equipped with an adequate percentage of C&K's new W-3 All-Purpose Looms. *No other weaving machinery can give you such profit-protection:*

1: 3-WAY CONVERTIBILITY: Complete conversion to a 4 x 2 box automatic bobbin-changing loom for filling mixing . . . from either a 4 x 1 automatic bobbin-changing loom or a 4 x 4 box non-automatic for pick-and-pick work.

2: NEW ALL-PURPOSE TAKE-UP: Provides adequate but gentle tension. No steel surfacing or sandpaper to damage delicate warp or filling.

3: FULL AUTOMATIC LET-OFF: Relieves the sudden strains of beat-up and shedding, while maintaining uniform tension on the warp, through the medium of the oscillating back roll. This results in minimum warp breakage, less mending, and higher quality of fabric.

These are some of the reasons why these new C&K W-3 All-Purpose Looms will give you the best fabrics . . . anything from finest worsteds to heaviest woolens or blended fabrics . . . at a wider margin of profit. Write.

CROMPTON & KNOWLES LOOM WORKS • Worcester 1, Mass.

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This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Woven Fabrics.

For better lubrication of plain bearings and gears in spoolers and warpers

Gulf Lubrication Engineers recommend

GULF HARMONY OIL

Gulf Harmony Oil has wide application in textile spinning departments — for warpers, spoolers, and other vital equipment. It is ideal for oil lubricated plain bearings, and is equally effective for lubrication of spur and bevel gears.

Gulf Harmony Oil is an exceptionally stable lubricant—helps insure freedom from sludge deposits in bearing reservoirs or gear cases. It has outstanding lubricating qualities and is available in the proper range of viscosities to cover general spinning room requirements.

Gulf Harmony Oil is recommended for use in plain bearings, chains, knotter mechanisms, and gears of automatic spoolers and for the bearings, chains, cams, and gears of warping machines. The use of this quality oil plus correct lubrication practice, as recommended by the Gulf Lubrication Engineer, can help you reduce wear in warpers, spoolers, and other auxiliary equipment in the spinning department.

Gulf Harmony Oil — and the complete Gulf line of more than 400 quality lubricants — are available to you through 1200 warehouses located in 30 states from Maine to New Mexico. Write, wire, or phone your nearest Gulf office today.

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FOR YOUR INFORMATION

How wool mills chop costs

Mill management is being called on to deliver profits even when sales volume is down. One plain way to do it is to pare operating costs, to produce less expensively and in less time. Many mill managers, and more every day, are realizing they can do this with a Monsanto chemical, Syton, because Syton gives from 10%-to-30% more yarn strength in woolen and worsted spinning.

Here is how Syton increases earnings:

1. By helping to produce more in less time.

Many mills . . . spinning carpet or knitting yarns for example . . . reduce twist with Syton and hence boost production. Other mills report fewer ends down during spinning and weaving . . . better roping condensation, reduced fly and card waste. Production costs go down, savings up.

2. By improving the product

Many mills find they can spin blends hitherto impossible. Almost all mills report that Syton enables them to spin any given stock to a finer count.

Hundreds of woolen and worsted spinners . . . more every day . . . are proving that Syton is a practical production speeder . . . and a money maker for management.

Certainly that's reason enough to find out how Syton can work in your own mill. We're ready to give you full details about Syton and our technicians are ready to help you right at your own plant.

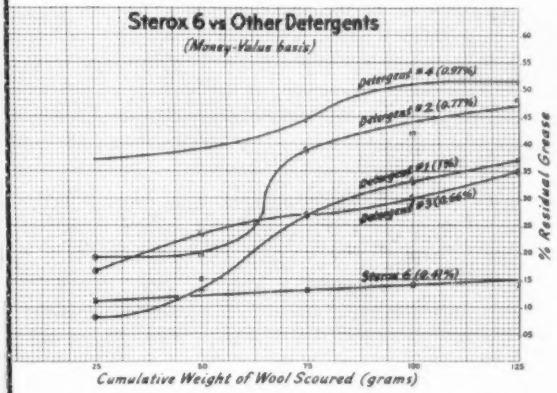
New, free booklets describe your savings with Syton

Four newly completed booklets describe in detail the uses of Syton for more efficient, and *economical* woolen and worsted spinning. Check one or all you wish, and get them through the handy coupon.

For woolen spinners: *"Syton for stronger, more uniform yarns."*
For worsted spinners: *"Syton for worsted spinning: More uniform yarns, increased strength, yarns spun closer to count.*
For carpet makers: *"Syton for loftier, 'more blooming' yarns."*
For Commission spinners: *"Syton for faster spinning of all types of fibers."*

STEROX 6

a new detergent for wool scouring



Sterox 6, a new detergent which Monsanto Chemical Company is introducing to the textile industry, has demonstrated high efficiency in the removal of oil and grease from wool fibers.

This contribution, the result of extensive research on synthetic detergents, wetting agents and cleaning compounds, is recommended for effective wool scouring.

Sterox 6 is a detergent that varies greatly in chemical composition and action from any other detergent.

Test work shows that Sterox 6 is outstanding, not only for removal of oil and grease, but also for its ability to hold them in suspension without redeposition on the fiber.

Further tests show that Sterox 6 is more efficient than other detergents on a money-value comparison.

For full information on Sterox 6, mark the handy coupon.

MONSANTO CHEMICALS—PLASTICS

SERVING INDUSTRY . . .
WHICH SERVES MANKIND

STYMER "S" acetate size

eliminates GEL problem

Enthusiastic mill owners everywhere report that Stymer "S" can be left in size-boxes overnight . . . that it does not "set" when cold, causing lines to clog. It eliminates messy clean-up jobs . . . saves both time and materials.

Stymer "S" is a new synthetic sizing agent whose uniformity and quality are strictly controlled. In addition to its non-gel properties, Stymer "S":

Increases plant efficiency.

Gives warp a superior finish over a wide range of humidities and temperatures.

Reduces static electricity.

Is non-gumming, non-thickening, non-mildewing; will not set or sour.

Minimizes dirty knot problems. Stymer's detergent power removes dirt picked up by knots.

Forms abrasive-resistant film without undue stiffening.

Is easy to dissolve from the woven fabric in warm water containing a mild detergent.

New Stymer Booklet

A new, free booklet on Stymer is available to you through the handy coupon. Send today for the booklet: "Stymer 'S', the Synthetic Size for improved Slashing of Synthetic Warps."

MONSANTO CHEMICAL COMPANY, Textile Chemicals Department
Desk TWT-17, 140 Federal Street, Boston 10, Mass.

Please send me: New Syton booklet for spinners, for worsted spinners, carpet makers, commission spinners; New Stymer booklet; full information on Sterox 6.

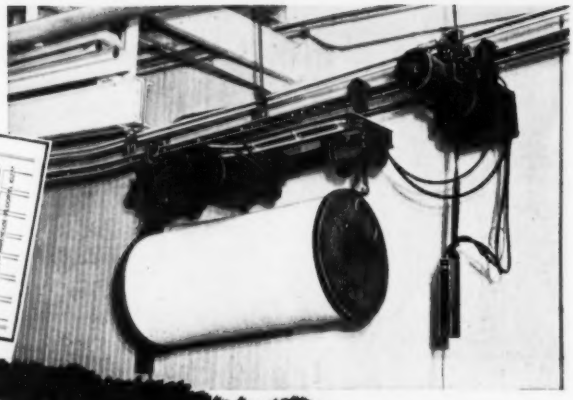
Name Title

Company

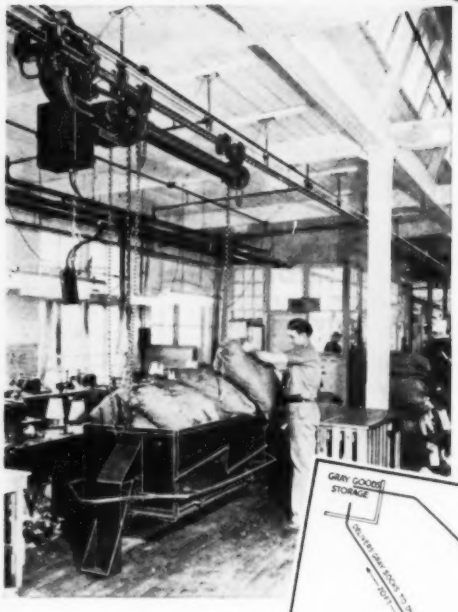
Address

City Zone State

Syton, Stymer, Sterox: Reg. U. S. Pat. Off.

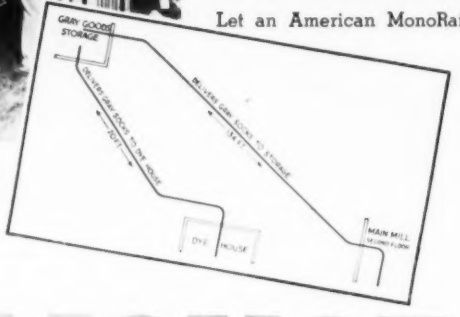


The Trend in Textile Handling is toward AUTOMATIC TRANSPORTATION



High labor costs — heavier unit loads — increasing maintenance expense have brought about a change from manual to automatic transportation of hard-to-handle textile loads. And American MonoRail equipment has been getting the call.

Illustrated at top is a system where beams of cloth travel from automatic pick-up to any of seven tables in the warehouse. Carrier unit can be set for twenty trips at control panel to operate continuously without further attention. Left, is a system for automatic dispatch where gray goods are transferred between buildings. Carrier dumps and returns to loading station by means of electric control.



Let an American MonoRail engineer explain cost-saving advantages in detail. Send for fully illustrated catalog "Automatic Cleaning and Overhead Handling for Textile Mills".

THE AMERICAN MONORAIL COMPANY

13108 ATHENS AVENUE CLEVELAND 7, OHIO

COLOR SELLS TEXTILES
(Samples shown are blended yarn fabrics.)
Only the best in designing will sell a fabric today,
and only the best in yarn dyeing will keep it sold.
Franklin Process
Largest Package Dyers in the World
Providence Philadelphia Greenville Chattanooga
New York Representative – 40 Worth Street

WOOL or WORSTED and FOSTER 102

A Combination for Good Winding

Doffing empty bobbin from supply skewer.

The Foster 51A Slub Catcher

SEND FOR BULLETIN A-95

Wool and worsted yarns are wound better on the Foster Model 102. The following Foster features, incorporated in the 102, account for this superiority of performance:

1 *Minimum breakage* because supply and tension bracket are in line and close enough for a single balloon that reduces yarn strain.

2 *Minimum breakage* because supply skewer, which is long enough so that a mule cop will not jump off, always swings back, after loading, to its original setting in exact alignment with tension bracket.

3 *Economy* because of rugged construction that reduces vibration and wear, hardened steel or porcelain parts that minimize cutting and grooving by hard twist yarns, and high speed production (one mill is running 70s worsted at 400 y.p.m.) with reduced operating cost.

4 *Economy* because repair costs run as low as $3.50 per year per 100 spindle machine.

5 *Flexibility* because the 102 winds soft twist or hard twist yarns, any count or type, on warping cones, knitting cones, parallel tubes, dye packages or twister packages, any taper, and any angle of wind from 9° to 18°.

6 *Efficiency* because several types of self threading tension and slub-catching devices promote quick threading and automatic inspection.

7 *Efficiency* because empty bobbin conveyor **BELOW** bobbin pins eliminates lifting, because conveyor discharges into standard size truck and eliminates rehandling, and because changeovers from cones to tubes or vice versa are comparatively inexpensive—one side can wind tubes and the other cones, if desired.

FOSTER MACHINE CO., Westfield, Mass.

Southern Office: Johnston Building, Charlotte, N. C. • Canadian Representative: Ross Whitehead & Company Limited, University Tower Building, 660 Ste. Catherine Street West, Montreal, • European Representative: Muschamp Taylor Limited, Manchester, England.

MORE CAPACITY in LESS SPACE

with FAFNIR'S new line of heavy duty

PILLOW BLOCKS

Type LAO

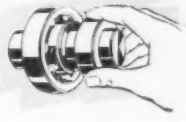
Incorporates the Fafnir Wide Inner Ring Ball Bearing with the exclusive self-locking collar . . . PLUS Mechani-Seals

Prelubricated . . . with provision for relubrication. Sizes for 1 3/8" to 2 15/16" shafts.

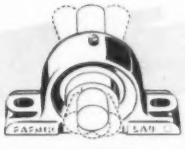
COMPACT, STREAMLINED DESIGN.

One-piece housing, reinforced at stress points for extra strength. Can be mounted in any position.

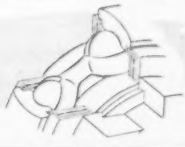
HEAVY SERIES FAFNIR WIDE INNER RING BALL BEARING WITH SELF-LOCKING COLLAR.



UNRESTRICTED SELF-ALIGNMENT IN ALL DIRECTIONS



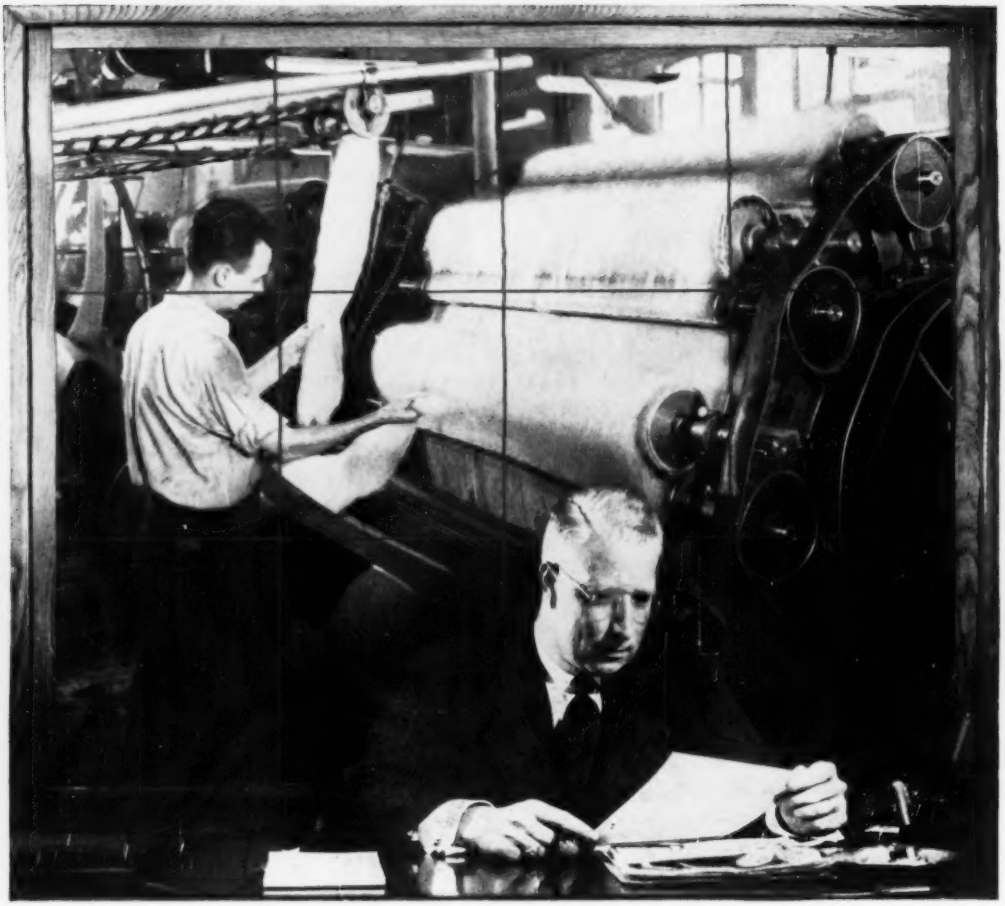
MECHANI-SEALS PLUS integral synthetic rubber and felt washer. External slinger throws off contaminants.



Not only more capacity in less space but more ball bearing pillow block for the money. Write for full details. The Fafnir Bearing Company, New Britain, Connecticut.

FAFNIR
BALL BEARINGS

MOST COMPLETE LINE IN AMERICA



Are YOUR Carding Costs Too High?

If there is a doubt in your mind, call in a Howard Bros. representative, a TUFFER man. He'll make a thorough analysis of your problems and give you valuable assistance in increasing the efficiency and in lowering the costs of your carding. Put his training and experience to work for you!

Write to any Howard Bros. plant or office.

HOWARD BROS. MFG. CO.

WORCESTER 8, MASSACHUSETTS

Southern Plants: Atlanta, Ga. and Gastonia, N. C. **Branches:** Philadelphia, Pa. and Blanco, Texas

Direct Representation in Canada

A-8

TUFFER CARD CLOTHING

IMPROVES PRODUCTION ALL ALONG THE LINE

GIVE YOUR FABRICS

A HAND

A WIDELY ACCLAIMED

PERFORMER AMONG

CATIONIC FINISHING AGENTS

Where a soft, smooth "hand" is required, your selection of a cationic finishing agent is most important. DRUCOMINE A economically imparts the desired finish effect to fine fabrics, while assuring maximum preservation of light-fastness and safety to sensitive shades.

DRUCOMINE A can be employed successfully alone or in conjunction with synthetic resins. Samples and literature upon request.

E. F. DREW & CO., INC.

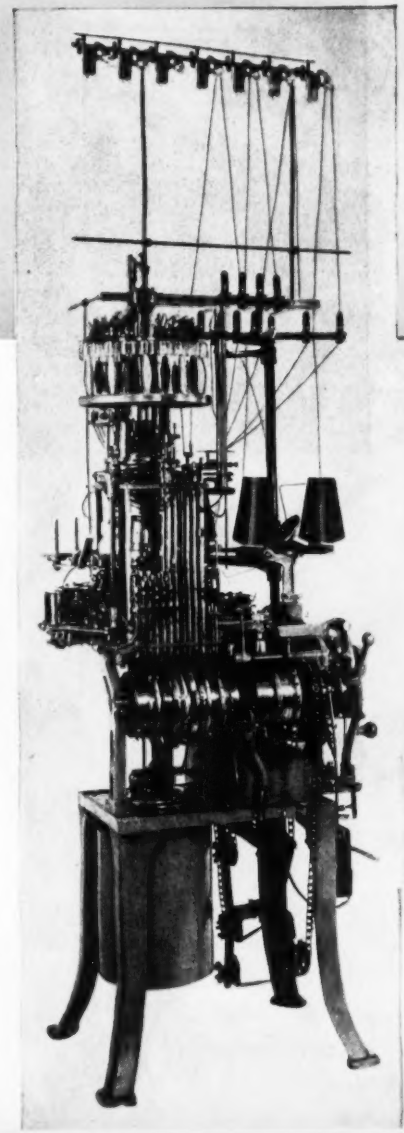
15 EAST 26th STREET · NEW YORK 10, N. Y.

FACTORY & LABORATORIES: BOONTON, NEW JERSEY

The Second of a Series of New Knitting Machines
Designed to Expand Your Hosiery Market

The New Scott & Williams Komet Wrap Machine

Produces Embroidered Clocks and Wrapped Patterns on Komet Broad Rib Hose
in a Single Knitting Operation



For many years men's wrap hose and slacks have been an important factor in the hosiery industry. And in recent years the Komet Broad Rib has been becoming more and more the dominant hose for men.

Heretofore, wrap clock and pattern features in Komet Broad Rib hose have been unavailable except by means of slow and costly hand embroidery or Swiss clocking machines.

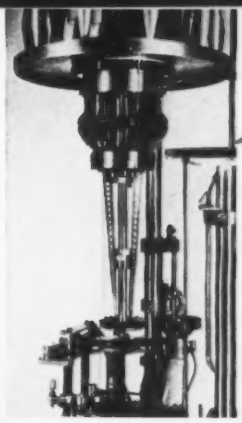
But now, with the new Scott & Williams Komet Wrap Machine, Komet Broad Rib hose can be produced with an infinite variety of embroidered clocks and wrapped patterns *in a single knitting operation*. Thus, you can offer hose with the well-known broad rib advantages, plus all the color and proven appeal of wrap patterning.

Here is another Scott & Williams development that provides opportunities for new business and new profits. Ask your Scott & Williams representative for samples of hosiery and complete details on the new Scott & Williams Wrap Machine.

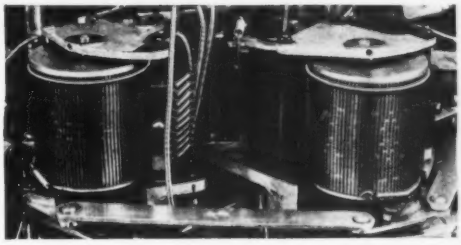
SCOTT & WILLIAMS, INC.
Established 1865

MAIN OFFICE AND PLANTS: LACONIA, NEW HAMPSHIRE
Sales Office: Empire State Building, New York 1, N. Y.
Divisional Offices: High Point, N. C., Reading, Pa., Chattanooga, Tenn.

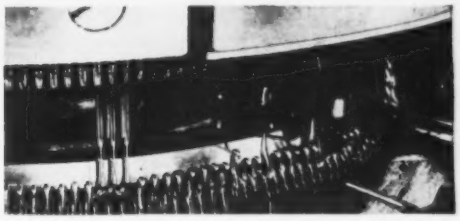
1. *New labor-saving draw-thread for hose separation.* This newly designed feature increases production 30% to 40% per knitter, with corresponding savings in knitting costs.



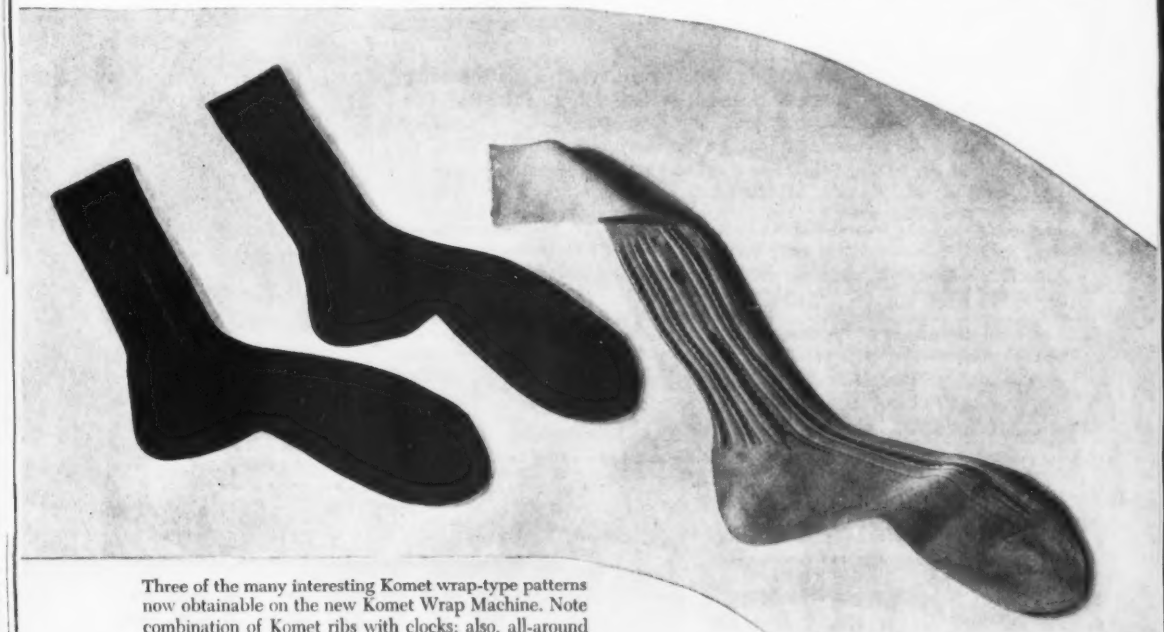
3. *A special wrapping mechanism,* based on successful HH-PW experience, has been designed for this machine. Being counterbalanced, the entire wrap head lifts out of upper cylinder, swings to the side and down for instantaneous re-threading and pattern changes, and is easily returned to knitting position. No other machine is so equipped. Wrapped designs of one to thirteen needles may be made.



2. *New triple-racking, two-drum patterning device.* Available only on the new Scott & Williams Komet Wrap Machine. One of the drums is used when single color wrap patterning is desired; both when color-in-color-and-beside-color patterns are wanted. Each drum has 96 pattern jacks and 96 moving racks, and by means of a new and unique mechanism can operate at three different levels, increasing to 288 racks and courses, rather than 96, the length of wrapped clocks.

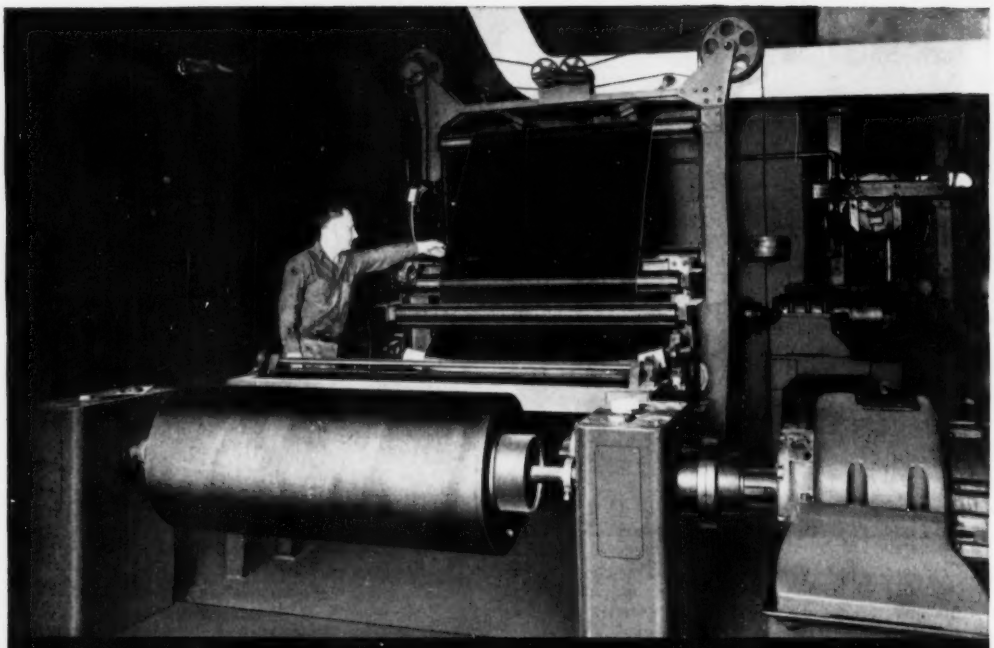


4. *Positive positioning of wrap yarn fingers in knitting.* Only on the new Komet Wrap Machine are wrap yarn fingers cammed out ahead of needles in the lower cylinder selected for patterning, and held stationary by wrap yarn finger stops while the cylinder revolves and until patterning is accomplished.



Three of the many interesting Komet wrap-type patterns now obtainable on the new Komet Wrap Machine. Note combination of Komet ribs with clocks; also, all-around embroidered patterns combined with clocks. Elastic-top slacks illustrate fabric evenness achieved with the new Rubber Furnishing Device.

S·W



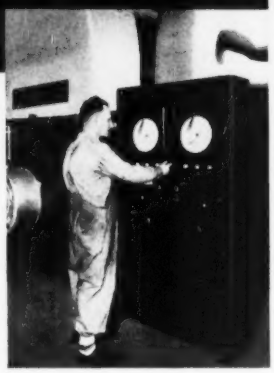
This IOI Gas-Fired Latexing Machine Provides Complete One-Man Process Control

SOUND ENGINEERING, rugged construction, compact design, operating economy—these are some of the basic reasons why this IOI latexing machine, shown above from the wind-up end, yields maximum returns on the investment it represents. Typical of its many outstanding features is the completeness of one-man control of the latexing operation which it makes possible.

In operation at the Inland Rubber Corporation, Chicago, this IOI medium-duty, gas-fired unit is currently operating at 28 YPM. Using two large capacity air heaters, it represents the first practical and successful application of gas in a fabric latexing machine.

The same advantages which characterize this machine—superior engineering, and construction, small space requirements and low operating costs—are incorporated in heavy-duty IOI latexing machines designed for operating speeds of 60 YPM and above. Units are for weftless or woven fabric latexing in train with rubber calender or as a separate operation.

For complete information on IOI Coating and Handling Equipment for Textiles, Papers, Films and Foils write for "Blueprint for Industry, Part V"—or an IOI engineer will be glad to call in person if you prefer.



Panelboard of operating control gear which gives operator complete mastery over every phase of the machine's operation. Note safety dials and main DC control. One of the two direct, gas-fired air heaters is at the left.

FABRIC COATERS AND SYSTEMS • HI-SPEED CONVECTION SLASHERS • LOOP AND FESTOON DRYERS

CAKE AND SKEIN DRYERS • CONSTANT TENSION WINDUPS AND UNWIND MACHINES

INDUSTRIAL OVENS, INC.

IOI ENGINEERING VERSATILITY

13825 TRISKETT ROAD CLEVELAND 11, OHIO

ASSOCIATED COMPANY: JAMES DAY MACHINERY LTD., LONDON W.1, ENGLAND

A modern mill installation of new Whitin Model "E" Wool Spinning Frames.

WHITIN Wool Spinning Frames

Pay Big Dividends

Not for 1 Year - Not for 2 Years

. . . but YEAR AFTER YEAR

Many dividends to be derived from an installation of Whitin Model "E" large package wool spinning frames are obvious and accepted. Production is greater; yarn quality is better, with greater evenness and strength, bringing related savings in subsequent operations. These benefits are well known.

There is another dividend — an important one, too — which is often overlooked. It is the *long life*-and *low maintenance cost* of Whitin installations. We feel that an important customer of ours has covered this very well in a recent letter describing a modernization program he recently completed involving the moving of a number of our frames. We are permitted to quote as follows:

"They, of course, had to be completely dismantled with the exception of the heads, and re-erected. Now it should be pointed out that these frames had been running about four years on a three-shift, 7 days a week operation, namely 168 hours, which is the equivalent of approximately 17 years on a single shift, 40 hour basis.

To our complete surprise, not a single bearing, shaft, gear or roll had been impaired in the slightest. We even went so far as to examine the bottom bearings on the spindles and bolsters themselves. The frames had been operating on high twist yarn with a spindle speed of approximately 4900 turns per minute. After a continuous run of four years, with no shutdown whatsoever, we thought the condition of the machines was remarkable."

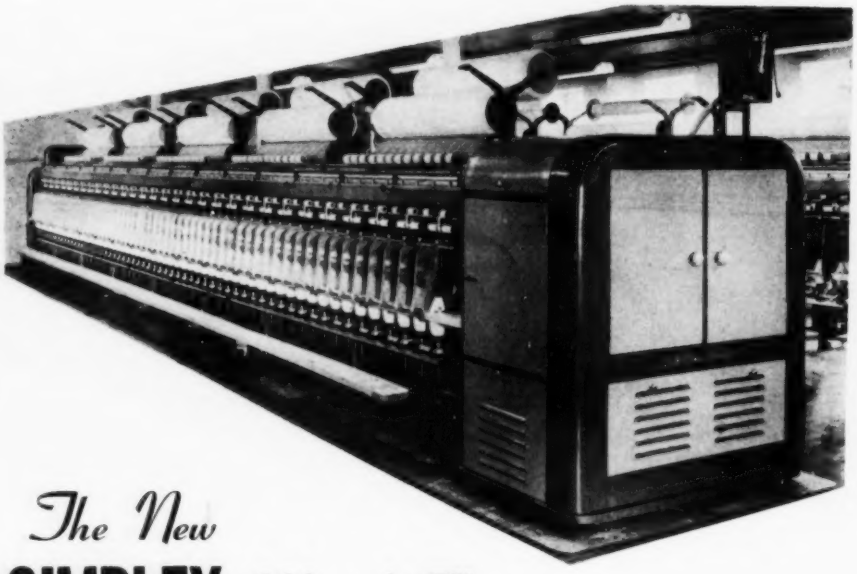
This is not an isolated case. Mill after mill has collected comparable dividends.

Write Today for descriptive literature on Whitin Model "E" Wool Spinning Frames

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA.



The New

SIMPLEX *Model* "F"

WOOL SPINNING FRAME

The value of machinery should be measured by its ability to maintain a good competitive position. Its performance should make up for high labor costs and other items of manufacturing expense.

Every deficiency in a machine costs something in waste, lost production, lower quality or cost of operation. All of these items affect a mill's costs and profits which determine its competitive position.

The new Davis and Furber Simplex wool spinning frame Model "F" is designed to meet conditions as they exist today. Carefully engineered and skillfully manufactured, the new Model "F" will enhance your competitive position. Greater efficiency and lower spinning costs, plus a minimum of maintenance or "down time" for repairs is the result of careful planning.

Model "F" is a superior machine which is backed by long experience and knowledge, and built by a company that has grown with the woolen industry.

If you are considering a means of improving the quality of your yarn, yet lowering your spinning costs, investigate the new SIMPLEX WOOL SPINNING FRAME MODEL "F".

Davis & Furber Machine Co.

NORTH ANDOVER, MASS.

SINCE 1832

Trade is reaching out-of-the-way places through the well-stocked wagon of the itinerant peddler.
THE ISELIN DIARY, 1869

THE BETTMAN ARCHIVE

Peddler's Progress

It was often a long way from factory to market in the growing nation of 1869. Many manufacturers easily bridged the financial gap through the Factoring services of the firm of Iselin—already 61 years old. . . . Today, you can reach out to new markets with Iselin Financing providing funds for new equipment, seasonal inventories, payrolls, raw materials—with credit risks and losses eliminated. . . . Some of our clients have used Iselin Factoring for generations. Their success is the cornerstone of our business—and can be the pattern for your future. Send for booklet on our Factoring service to industry.

William Iselin & Co., Inc.

357 Fourth Avenue, New York 10, N. Y.
FOUNDED IN 1908

No Guesswork at the finish...

WITH TAYLOR CONTROL OF FULL OR SEMI-DECATING

IT'S A FACT! With Taylor Controls on your full or semi-decating machines (semi shown below) you'll eliminate the guesswork of manual control. Many such Taylor systems are now in successful operation. The machines in the picture are doing a precision job for the Botany Worsted Mills in Passaic, New Jersey. Here's what Taylor automatic control like this will do for you: After you've determined your *ideal* time schedule for steam and vacuum the Flex-O-Timer will repeat the cycle *automatically*. Your operator will know he's getting uniform finish because the Timer subjects each piece of cloth to the same length of time under steam and the same length of time under vacuum. What's more, it's easily adjustable—easy to set for different types of cloth.

Whether your process involves full or semi-decating, we can supply automatic control that will keep your quality up and costs down. Ask your Taylor Field Engineer! Or write Taylor Instrument Companies, Rochester, N. Y., and Toronto, Canada.

Instruments for indicating, recording and controlling temperature, pressure, humidity, flow and liquid level.

Taylor Flex-O-Timer and Motosteel Valves on one of a battery of semi-decating machines at Botany Worsted Mills, Passaic, N. J.

Taylor Instruments
MEAN
ACCURACY FIRST
IN HOME AND INDUSTRY

BALLING GILL
FINISHER GILL
COMB
SPINDLE GILL
INTERMEDIATE
FINISHER
REDUCER
ROVER
SPIN
THIS
OR
THIS
WARNER & SWASEY PIN DRAFTERS can be put into your present production line for immediate profits.
. . . and what is of even greater importance—they fit in with, and make most efficient, the other new textile machines which are being introduced to replace the old and make . . . new and more efficient systems inevitable.
3RD OPERATION PIN DRAFTER
2ND OPERATION PIN-DRAFTER
1ST OPERATION PIN-DRAFTER
COMB
REDUCER
ROVER
SPIN
Our Field Engineer in your territory is experienced and can give you complete information.
WARNER & SWASEY
Cleveland
TEXTILE MACHINERY DIVISION
RIVULET MILL
UXBRIDGE, MASS.
19 NORTH HARRISON ST.
EAST ORANGE, N. J.
CANDLER BUILDING
ATLANTA, GEORGIA

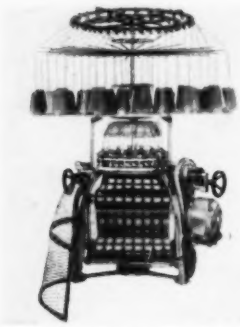
YOU CAN DO IT BETTER, FASTER, FOR LESS...WITH A WARNER & SWASEY

Now... Supreme Exclusive!

"NO-WASTE" KNITTING

OF VARIABLE STRIPES AND PLAIDS

NEW SYNCHRONIZED CUTTERS* ELIMINATE ALL WASTE WHEN CHANGING COLORS



Model SA-ROF. Modern in design, proven in use, backed by experience.

This revolutionary Supreme development gives chest stripes, blazers and plaids a sales appeal that was never before possible. It saves yarn, dollars and time. It means clean-as-a-whistle fabrics that are easier to finish because the cloth does not have to be reversed. Easier to sell too; the buyer gets all cloth for his money . . . there's no braid of waste added into the cloth poundage.

An exclusive Supreme feature, the new waste-eliminating cutters are available on the Model SA Automatic Variable Striper and the Model SA-ROF Variable Stripe and Plaid Knitter.

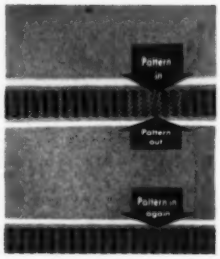
Here's how it works...

Each striping feed is equipped with one of these simple cutters. At the correct instant, the yarn that is going out of action is clipped off close to the narrow seam. It is then held in a unique clamping device along with the other yarns, each ready to go back into action the moment the pattern calls for it. No waste yarns, no floating yarns, no special and intricate stop motions.

***Patent Pending**

SK-120

Another New Development



THE AUTOMATIC PATTERN PLACER

Available on the Model SA-ROF, this new device lets you place a pattern wherever you want in plain or striped jersey cloth. You can engage or disengage the pattern at will, separating the pattern with plain or variable striped fabric. The result? Practically any combination of patterned and plain or striped jersey.

Write today for the free booklet "Variable Stripes and Plaids Pay" and free cloth samples that show other unique features and wide knitting ability of the Models SA and SA-ROF.

SUPREME

KNITTING MACHINE CO., INC.

107 JOHNSON AVE. BROOKLYN 6, NEW YORK, N. Y.

CASH IN on this Barrel-Head! with FLINTKOTE ADHESIVES

● Lots of answers here to the question of the correct adhesive.

Flintkote engineers — both research and sales—have solved hundreds of difficult bonding, sealing, coating and production problems . . . have helped numerous industries improve products and cut costs.

Perhaps you need an adhesive to meet ordinary or special requirements. Our extensive facilities are geared to furnish a gallon or a tank car. Hundreds of formulae are available for roll coating, brush or spray applications . . . or our research staff will develop just what you need.

Get in touch with us. Give our experienced staff your product or production problems, so that you, too, may "cash in on this barrel-head."

THE FLINTKOTE COMPANY, *Industrial Products Division*

30 Rockefeller Plaza, New York 20, N. Y.

ATLANTA • BOSTON • CHICAGO HEIGHTS • DETROIT • LOS ANGELES
NEW ORLEANS • WASHINGTON • TORONTO • MONTREAL

Flintkote's new research laboratory at Whippany, N. J., constantly puts new products and new applications of old products at the service of industry.

FLINTKOTE INDUSTRIAL PRODUCTS

FLINTKOTE *Products for Industry*

PERKINS Fiber Conditioner

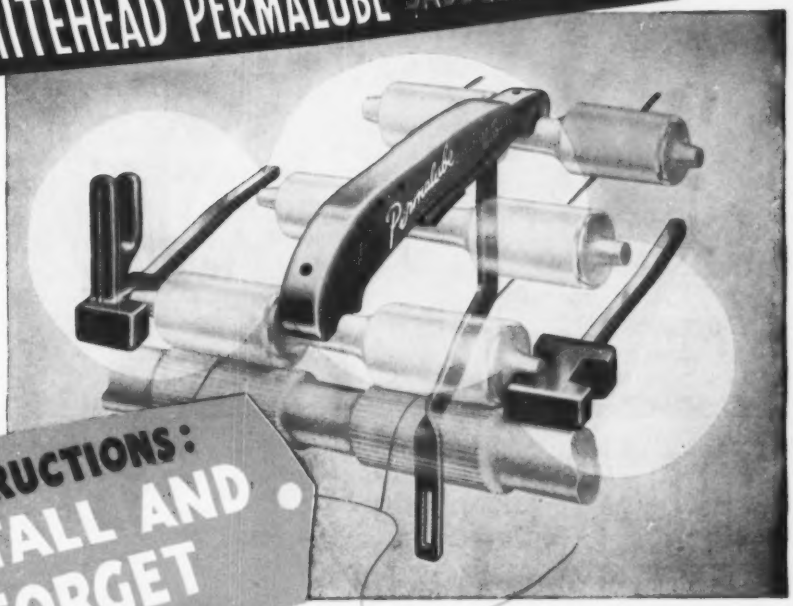
The more efficient way to clean Wool Fibers

- ***Lower cost***
- ***Less space***
- ***Lighter weight***

The Perkins Wool Fiber Conditioner provides the solution to economical burr-removal by means of a new, simple and highly effective action that reduces substantially the cost of mill production. Its efficiency enables manufacturers to take advantage of the use of burry wool stock and still produce a comparable product . . . and, in the case of higher grade fibers, lessens the necessity for costly, time-consuming carbonization.

B. F. PERKINS & SON, Inc.
HOLYOKE, MASSACHUSETTS

NEW WHITEHEAD PERMALUBE SADDLES AND NEBS



Prices:
SADDLES 60c each
Complete with stirrup
NEBS 30c each

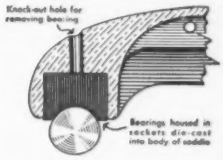
INSTRUCTIONS: INSTALL AND FORGET

Here, at last, are Saddles and Cap Bar Nebs that never need oiling, can't gall or score the rolls—Saddles that won't cock or wander, that are easy to clean and will last for years. And yet, with all their superiority, Permalube products cost you less! No wonder so many leading mills are now installing Permalube Saddles and Nebs *exclusively*.

Only WHITEHEAD PERMALUBE Products Offer All These Money-Saving Features

- Years of trouble-free service
- Very low friction coefficient
- No oiling — No mess
- No oil on yarn from top rolls
- Aluminum bearing holders can't score rolls
- Less lint accumulation
- Easier picking — less often
- Pivot point permanently adjusted
- Saddle self-aligning. No tilting
- Bearings quickly and cheaply replaced if ever necessary

THE BEARING THAT OILS ITSELF



Forty-eight percent of the weight of the Permalube bearing is non-drying oil stored up in thousands of tiny capillaries which feed lubricant to the rolls as needed. Friction and wear are reduced almost to the vanishing point. Repeated tests, equal to years of hard service, show bearing wear of only .002"—less than the thickness of paper!

TRY PERMALUBE PRODUCTS AT OUR RISK • Try a frame of these long-life, self-oiling saddles and nebs for three months. If you don't find that they are the best you've ever used, return them for full refund of their purchase price. When ordering, send worn samples or give specifications of your frame to one of our representatives listed below.

PATENTED AND MANUFACTURED BY
WHITEHEAD ENGINEERING CO.
BOX 248 FAIRBURN, GEORGIA
Makers of Permalite Aluminum Separator Shields

EXCLUSIVE DISTRIBUTORS
Meadows Manufacturing Co.*
BOX 4354 • ATLANTA, GEORGIA

***SALES REPRESENTATIVES**

Alabama, Georgia, Tenn., Miss.
R. L. (LYNN) HOLLOWAY
Box 4354, Atlanta, Ga.

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WALTER COLEMAN
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J. P. (JIM) COLEMAN
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Northern Representative
MATTHEWS EQUIPMENT CO.
93A Broadway, Providence, R. I.

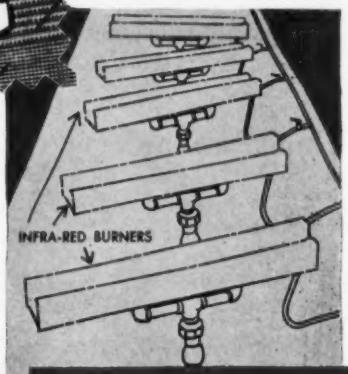
TEXTILE DRYING

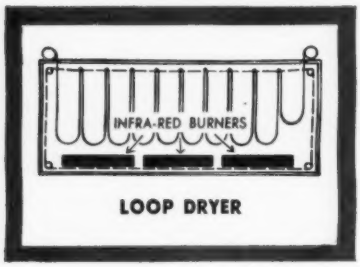
Applications of

RADIANT CERAMIC EQUIPMENT

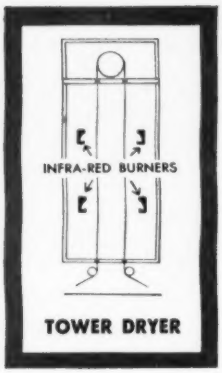
Demonstrate Simplicity of GAS

TENTER PALMER DRYER

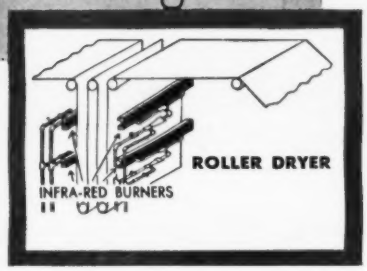




LOOP DRYER



TOWER DRYER



Illustrations courtesy Carbomatic Corp. Manufacturers of Infra-Red Radiant Gas Ceramic Dryers, Long Island City, N. Y.

Infra-Red Radiant Gas Dryers offer many an opportunity for increasing production without major capital investment for equipment. These applications of flexible GAS include pre-drying, curing, tenter frame drying, polymerizing, and many other processes for special types of fabrics, slashers and nylon settings.

The simplicity of modern Gas Equipment is demonstrated in the schematic installation drawings. Each of these shows a typical application of Radiant Gas Dryers designed to increase the productive capacity of existing equipment.

The results are a matter of record. In hundreds of textile plants the increased capacity of drying equipment ranges from 25% to almost 100%, varying according to type of fabric or yarn.

There's a wide variety of modern Gas Equipment suitable for virtually every textile operation requiring heat. An important characteristic is the automatic controllability of GAS through every temperature required for fabric or yarn processing. There are other features of GAS worth investigating—economy, speed, cleanliness, simplicity and meeting with insurance underwriters' requirements for absolute safety. In fact, it's always worthwhile to keep an eye on what's new in modern Gas Equipment for textile processing.

MORE AND MORE... THE TREND IS TO GAS FOR ALL INDUSTRIAL HEATING

AMERICAN GAS ASSOCIATION

420 LEXINGTON AVENUE NEW YORK 17, N. Y.

CREATING *nothing* TO ASSURE LONG LASTING SERVICE

QUAKER HOSE IS VACUUM "PRE-TESTED" FOR STRENGTH OF WALLS . . . DURABILITY UNDER MOST SEVERE USAGE!

If it's Quaker Hose, it must be right . . . must meet the most rigid "pre-tests" before it is shipped for use in the textile industry. Scientific pre-tests that subject hose to more severe usage than will ever be encountered in any textile plant are conducted in Quaker's laboratories.

One of these steps in "pre-testing" Quaker Hose is shown above. A vacuum test that puts Quaker Suction Hose through the torture-test to provide rubber products for the textile industry that are second to none in quality. Here greater suction is built up than will ever be encountered in actual operation.

This is only one of the eighteen rigid tests that raw materials and finished products must pass before receiving the Quaker stamp of approval. Yes, "pre-testing" of Quaker belting, hose and packings provides quality and long service . . . assure your plant of worthwhile dividends through less time-outs for maintenance, higher efficiency, lower operating costs.

PACKINGS THAT PRESERVE POWER

Quaker packings of all types are pre-tested for size, shape and quality to assure perfect fit, long service, maximum power.

BELTS THAT BOOST POWER

Quaker's complete line of textile transmission belting, V-belts and conveyor belting is pre-tested and service-proved to provide a sure-grip . . . slip less . . . save power.

QUAKER RUBBER CORPORATION

PHILADELPHIA 24, PA. • New York 7 • Cleveland 15 • Chicago 16 • Houston 1
Western Territory
QUAKER PACIFIC RUBBER CO. • San Francisco 10 • Los Angeles 21 • Seattle 4

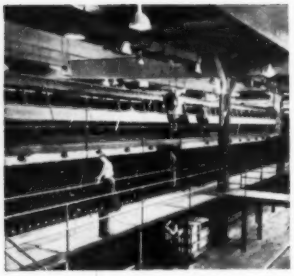
QUAKER

RUBBER PRODUCTS

QUALITY SINCE 1885

REG. U. S. PAT. OFF.

It's Carrier for scientific air conditioning



In the chemical production of fibers, too, Carrier control of temperature and humidity is vital to large-scale production and uniform quality. Here in the world's first plant for continuous processing of viscose rayon at Paynesville, Ohio, the Industrial Rayon Corporation operates more than a mile of streamlined spinning machines like this.

Call it what you like—scientific air conditioning or air conditioning know-how—Carrier has what it takes to design and install the system which will reduce your costs the most.

Proof that Carrier know-how pays off is on record. Here are just two of many case histories from Carrier files:

1 **Before modernizing its outmoded air conditioning with a new Carrier Evaporative Cooling System, mill A's production was limited to 32,000 yards of cloth per loom. After Carrier modernization, loom efficiency increased 2 per cent—giving the mill 640 more yards of cloth per loom with exactly the same labor.**

2 **Before the addition of Carrier Refrigeration eliminated the sudden temperature changes in mill B, ends-down averaged 50 to 60 per 1000 spindle hours—afterward they were cut in half. Lower temperatures made labor more efficient. More efficient labor gave better attention to fewer ends-down.**

These are typical examples of the easily measurable results of scientific air conditioning. There are other results not so easy to measure, but which are very important—for instance, better choice of labor, less employee absenteeism and turnover.

Whether your problem involves a new installation or modernizing an old system, you can rely on Carrier know-how for a sound solution. Carrier Corporation, Syracuse, New York.

Carrier AIR CONDITIONING • REFRIGERATION • INDUSTRIAL HEATING

Good Knitting is always

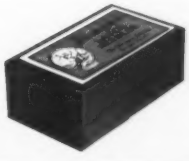
in style. And whatever type of knitted merchandise you produce, good knitting is the basis on which sales appeal is built. Torrington Needles, recognized throughout the knitting world for their precision-made quality, can be an asset to you in keeping your knitting standards high and your production costs low. Make it a rule in your mill to insist on the needles in the Red and Green box.

THE TORRINGTON COMPANY

TORRINGTON, CONN., U. S. A. *Established 1866*

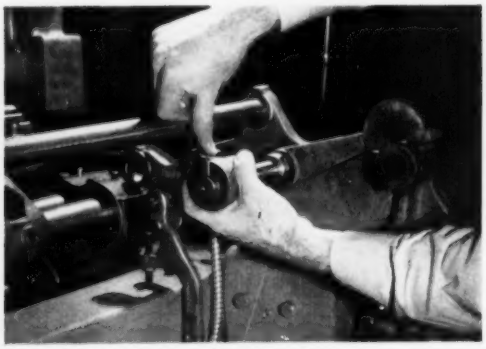
Branches: New York • Philadelphia • Chicago
Greensboro, N. C. • Boston • St. Louis • Toronto, Canada
Pacific Coast Representative: E. G. Paules, 1762 West Vernon Ave.,
Los Angeles 37, California. In England: Broadgate House,
7-10 Eldon Street, London E. C. 2.

There's a TORRINGTON Needle for every type of Knitting!



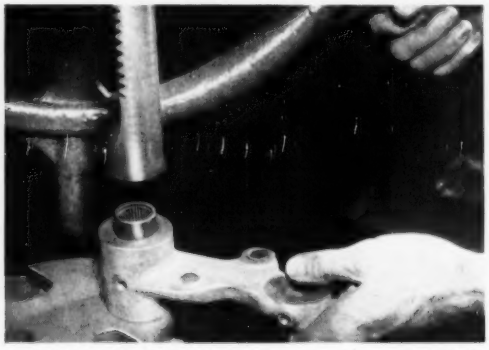
Torrington Needle Bearings Aid Production of Quality Fabrics in Reiner Tricot Machines

High fabric quality, steady production and economical maintenance are outstanding features of high speed Tricot Knitting Machines built by Robert Reiner, Inc. In the balanced floating controls, 8 Needle Bearings contribute to uniformity of knitting.



The balanced floating control design, with accurate response provided by the Needle Bearings, assures that the cloth will knit uniformly over the entire knitting length. Smooth operation results from the low friction coefficient of these high-capacity bearings.

The use of Torrington Needle Bearings helps keep the design simple, requiring only the elements shown here. An accurately machined bore serves as housing, and a hardened and ground shaft as the inner race. No spacers or retainers are needed.



Installation of Needle Bearings is an easy, quick operation. Each bearing is installed with one stroke of the arbor press, taking a firm press fit. These features mean economy in design, fabrication and assembly, providing anti-friction efficiency at low cost.

Knitting action of the Reiner Tricots is further aided by the use of 32 Torrington Needle Bearing Cam Followers, 2 NCS Needle Bearings supporting the lower beam ends, and 9 Spherical Roller Bearings on the cam shaft. Let our engineers help you apply Torrington Bearings to improve the performance and service life of your textile equipment. Write us today. The Torrington Company, Torrington, Conn., or South Bend 21, Ind. District offices and distributors in principal cities.

TORRINGTON *NEEDLE* **BEARINGS**

Needle • Spherical Roller • Tapered Roller

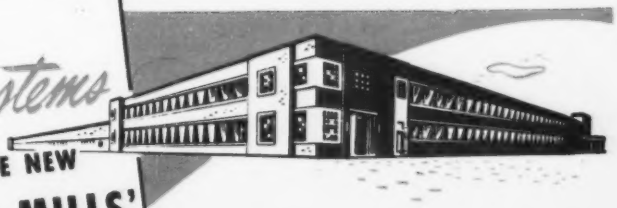
Straight Roller • Ball • Needle Rollers

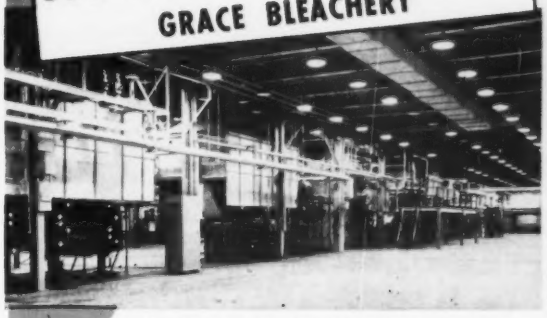
ROSS *Air Systems*

WERE SPECIFIED FOR THE NEW

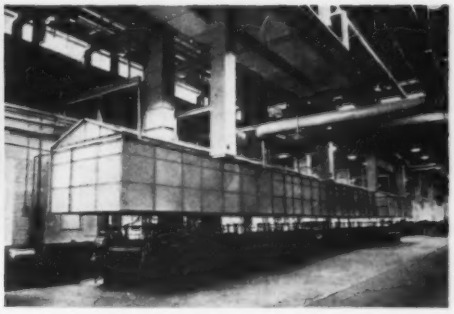
SPRINGS COTTON MILLS'

GRACE BLEACHERY





View of Open Width Bleach Range showing ROSS Transite Hoods over Dry Cans and Williams Units. Note duct distributing heated air over ceiling.



ROSS Transite Hood over Dye Jigs. Note ducts and outlets for comfort cooling in operating aisle.

Most advanced methods of air handling for the industry's most modern bleachery

Of the many notable features of Springs Cotton Mills' New Finishing Plant, none has aroused more interest than the scientific use of air for processing operations. The thoroughly modern Air Systems designed by ROSS engineers effectively confine and remove vapors from processing equipment, such as dye jigs, dry cans, etc., prevent condensation on ceilings and walls, eliminate fog, remove evaporation and provide comfort cooling for operators. In all, these ROSS Systems handle 700,000 cfm. of air. Springs Cotton Mills provides another example of how the industry's most modern and best equipped plants depend upon ROSS Systems for all air handling problems.

ROSS SYSTEMS FOR FINISHING PLANTS

HEATING • VENTILATING • COOLING • DRYING

ROSS SYSTEMS

J. O. ROSS ENGINEERING CORPORATION

MANUFACTURERS OF AIR PROCESSING SYSTEMS

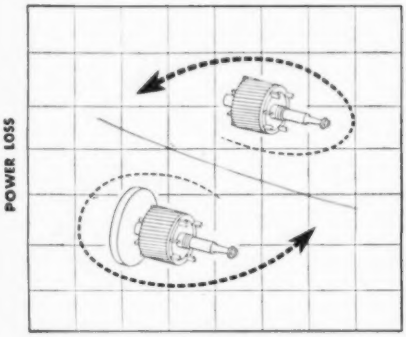
350 MADISON AVENUE NEW YORK 17, N. Y.

201 N. Wells Street, CHICAGO-6 • 79 Milk Street, BOSTON-9 • 9225 Grand River Avenue, DETROIT-4 • 600 St. Paul Avenue, LOS ANGELES-14

ROSS ENGINEERING OF CANADA, LIMITED, MONTREAL, CANADA • CARRIER-ROSS ENGINEERING COMPANY, LIMITED, LONDON, ENGLAND

we've added

...to give you a motor that does more work and makes loom "feel" better!



FLYWHEEL EFFECT

This chart shows how the addition of flywheel effect in a loom motor reduces power lost through motor heating.

NEW BEARINGS, TOO!

The bearings on a General Electric loom motor are bronze, backed with a bonded outer shell of steel. This means your loom motor is better able to stand up to the shocks imposed by the typical loom operating cycle. This bearing construction is better because—

FIRST, it retains a tighter fit in the end shield without taking a permanent set.

SECOND, it is better finished, making possible a more uniform oil film, and thus, greater load capacity.

THIRD, it has been designed to make the end shield, rather than the bearing sleeve, absorb punishing shaft thrust.

Today, the General Electric totally enclosed loom motor is better than ever! For, where the loom needs it, you can specify a *standard* G-E loom motor with an integrally-mounted flywheel at very little extra cost! You get these important advantages:

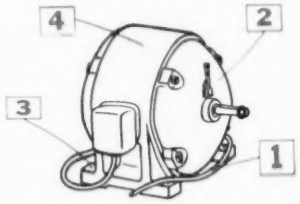
LESS POWER USED — By increasing the flywheel effect in the motor, power losses caused by pulsating loom loads are reduced materially.

MORE SHAFT OUTPUT — Generally speaking, a flywheel motor can be one rating smaller (or allow increased loom speed) and still do a satisfactory job.

LOWER MOTOR SPEED — You can reduce the speed of your motors from 1800 rpm to 1200 rpm and thus take advantage of the inherent merits of the lower speed motor.

BETTER PERFORMANCE ON YOUR LOOMS! Loom fixers report that G-E flywheel motors actually *improve* loom performance. The loom "feel" is better and there is less variation in motor speed throughout the operating cycle.

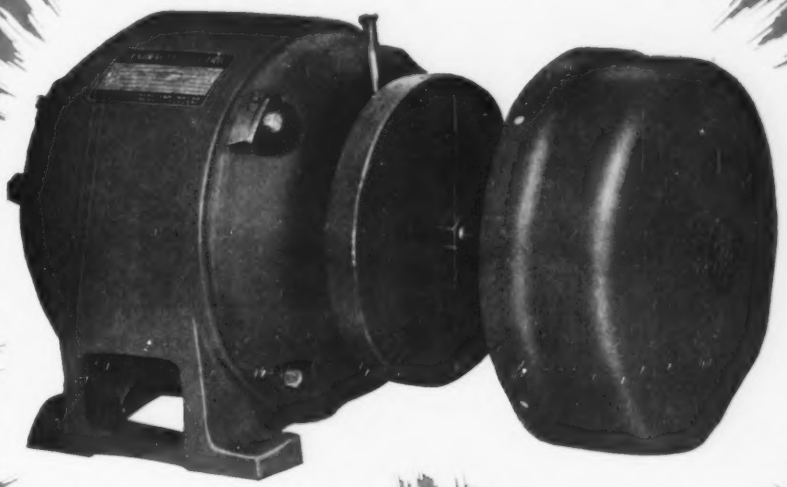
More Convenience Features!



1. G-E loom motors are furnished with a terminal box and Flamenol ® multiconductor cable containing ground wires in accordance with Associated Factory Mutual Fire Insurance Companies' recommendations. No conduit is required with this arrangement but the terminal box can accommodate conduit wiring when used.
2. Oil fittings are located on top where they are easily accessible for filling.
3. Footholes are drilled for heavy mounting bolts.
4. Handhole between feet makes mounting easy.

GENERAL ELECTRIC

a flywheel!



TOTALLY ENCLOSED

LOOM MOTORS

Cast-iron for long life!

General Electric Co., Section A654-1
Apparatus Dept., Schenectady 5, N. Y.

Please send me without obligation a copy of your Bulletin GEA-5011B which describes the G-E totally enclosed 40C rise loom motor — both standard and flywheel types.

Name _____

Company _____

Address _____

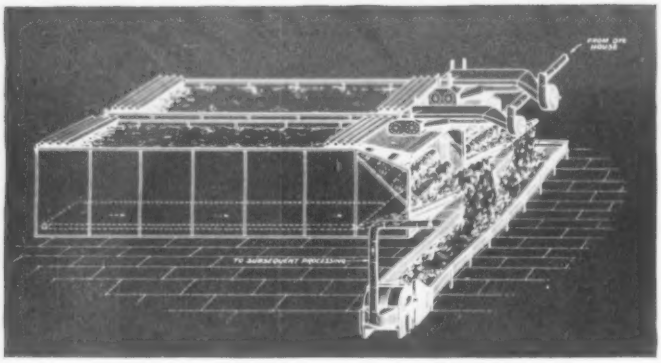
City _____ **State** _____

TEXTILE MACHINERY and

PUBLISHED BI-MONTHLY FOR TEXTILE MILL EXECUTIVES AND OPERATING PERSONNEL BY PROCTOR & SCHWARTZ, INC.

• MAY • 1949 •

Roller Distributor Found Applicable for Uniform Color Blending . . . . .



Originally conceived simply for blending various types or grades of stock—the recently developed Proctor roller distributor has been found extremely well suited to the blending of various dye lots of stocks.

This modern system provides a more accurate means for achieving uniformity in the color blend than anything ever before used for this purpose.

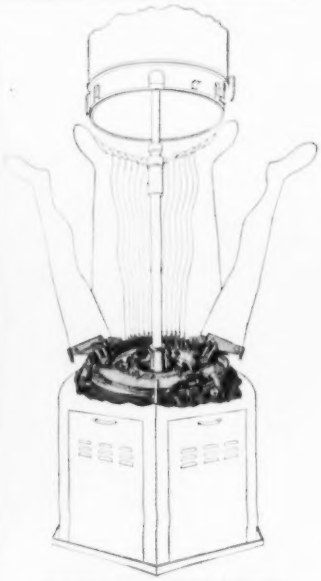
In order to overcome the slight variance that occurs in dye lots of the same color—these lots are carried by pipe from the discharge end of the dyehouse dryer to either condenser (shown in the typical plan view above). From the condenser, the stock is deposited onto the roller distributor, which deposits it in the blending box, building up a sandwich blend. When the blend is built up to sufficient height, the conveyor which forms the base of the blending box, moves forward and break-down rolls, equipped with retracting pins, pick off the stock from top to bottom and feed it to the picker.

The result is a complete and thorough blend of the several dye-lots in such a way as to assure one even shade for subsequent processing.

Variations of this system may be designed to meet the requirements of any mill with a color blending —or "shade-evening" problem.

This application represents one more use for the highly versatile blending equipment developed by Proctor engineers. Blending of stocks for a wide variety of reasons has taken on new importance to the textile industry within the last several years. Proctor engineering skill has not only kept pace with that need—but in many instances, set the pace by providing modern equipment to make possible blending operations never before considered.

If you have a blending problem of any kind—Proctor engineering skill can help. Write us about your problem today.



PROCTOR PREBOARDING EQUIPMENT REDESIGNED FOR MECHANICAL SIMPLICITY

Improvements recently incorporated in the design of Proctor preboarding equipment have greatly simplified its operation over earlier machines.

The new design eliminates the three hydraulic pistons that were used to raise and lower the boards. These pistons are replaced by a cam which operates mechanically. On machines designed and built previous to this improvement all of the boards were thrown out at once after the chamber had risen. With the new "dual-board take-out device," the boards are brought out individually and continuously at the two boarding positions on the machine. This arrangement cuts wear and maintenance to a minimum.

These improvements may be readily incorporated in the older machines.

Write for Bulletin #337 which explains in detail how the newly designed equipment operates.

DRYING EQUIPMENT *News*

RECLOTHING PAYS OFF IN IMPROVED PRODUCTION

It stands to reason that sharp wire on card and garnett cylinders that are "true" and in proper alignment improves production. Not only is output better—but the quality of the work produced by the machines is vastly improved.

In order to help you keep your cards and garnetts operating at peak efficiency, Proctor & Schwartz, Inc. maintains reclothing service at five convenient locations throughout the country. Your cylinders may be serviced and reclothed at the main plant in Philadelphia or in reclothing shops in Newton Upper Falls, Mass., Cohoes, N. Y., Chicago, Ill., or San Francisco, Cal.

Consider the condition of your equipment today—then investigate Proctor reclothing service. You'll find it will pay for itself many times over. Write for details to the main office—or any of the reclothing shops.

WHEN YOU NEED INFORMATION ON PROCTOR EQUIPMENT *Quickly*

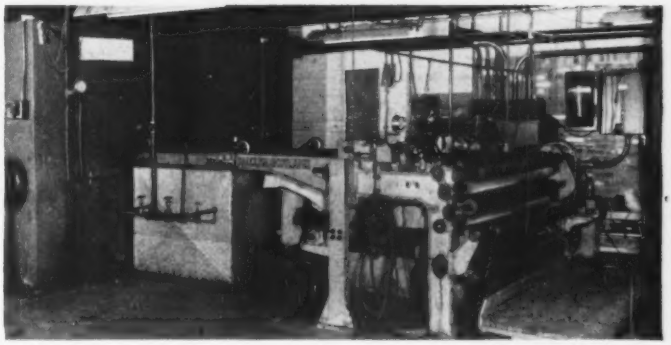
turn to either Textile World Pre-Filed Catalogs—or Davison's Textile Catalogs.

In both of these pre-filed catalog services you'll find 16 pages of information to help answer your questions on Proctor equipment.

Of course, no catalog or directory advertising can answer your most detailed queries. However, when you want basic information of what Proctor makes and for what purposes . . . you'll find it in these catalogs. When time permits or your information must be quite specific—of course, we're always glad to hear from you . . . so write us about your individual problems.

Much Proctor drying equipment and textile machinery is covered in full or in part by patents or patents pending.

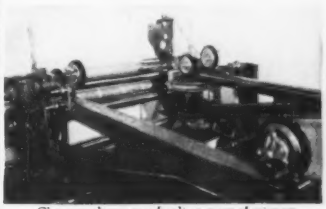
Dalglish Pin Tenter Meets Demand for Quality Finishing at High Speed



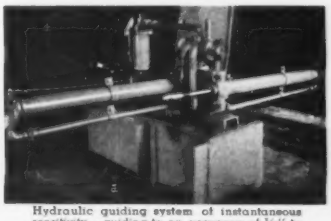
Textile men have long sought a means for finishing fabrics that would provide the full round hand of custom finished fabrics—at high speed to meet production demands. As recent installations of the Dalglish pin tenter are checked it becomes increasingly apparent that this equipment is answering that long standing need.

Originally developed in Scotland by John Dalglish & Sons, and now manufactured and sold in America under license, by Proctor & Schwartz, this equipment provides a means for high output and quality control in fabric finishing.

The quality and "hand" of the finished goods is a direct result of the perfected overfeeding device, combined with other mechanical features and a balanced, high speed drying system. Especially applicable for use in finishing resin treated fabrics, the drying system is so designed that resin migration is prevented—further assurance of quality finishing. Because of control possible with this system, results established on one fabric can be reproduced on the next run, without question. Write for complete details.



Close up shows overfeeding gear of micrometer accuracy, which contributes largely to quality finishing.



Hydraulic guiding system of instantaneous sensitivity—guiding to an accuracy of 1/8" to 100 yards per minute.

Proctor & Schwartz, Inc. • 710 TABOR ROAD • Philadelphia 20, Pa.

What makes it Sell ?

What puts the eye-appeal and sales-appeal in synthetic fabrics? Is it just the design? You know that's only half the story. Quite as important is the fabric finish—the softness, the pleasing hand, the draping qualities.

Back of every good finish there's good processing — the efficient type of processing you can count on with Olate.

Olate has a well established reputation for quick solubility, exceptional detergency, and good lubricating properties. Olate rinses from fabrics rapidly and thoroughly. Throughout the industry this pure, neutral, low titer soap is widely used because of its efficiency, economy, and gentleness.

Olate can help your plant turn out synthetic fabrics which have the eye-appeal so closely related to sales-appeal. Try it.

Procter & Gamble

Olate

safe and efficient for every textile soap usage!

NEW VEEDER-ROOT "Dozens" Counter

...a New Aid to Inspectors in Glove and Hosiery Mills

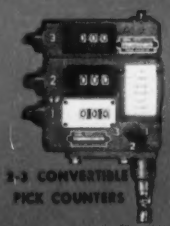
This useful new counter counts *both* individual pieces and dozen pairs...speeds inspection and packing...clamps down on "no-count errors." It can be used at inspection, doffing, or on the knitting machine itself...either hand-operated or machine-actuated.

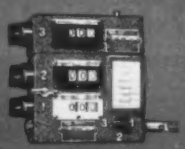
Send for full details and prices on this new "Dozens" Counter...and on any other counters you may need for any machine or process in any type of mill. Remember... *Veeder-Root makes the world's most complete line of textile counters.* So on any counting problem, get in touch with your nearest Veeder-Root office.

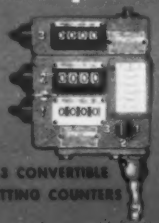
In Canada: Veeder-Root of Canada, Ltd., 955 St. James Street, Montreal 3
In Great Britain: Veeder-Root Ltd., Kilspindie Rd., Dundee, Scotland

VEEDER-ROOT
INCORPORATED
HARTFORD 2, CONNECTICUT
"Counting House of the Textile Industry"
GREENVILLE, S. C.

World's Most Complete Line of Textile Counters


2-3 CONVERTIBLE PICK COUNTERS


2-3 CONVERTIBLE HANK COUNTERS


2-3 CONVERTIBLE KNITTING COUNTERS

LOOM CUT-METERS

LINEAR COUNTERS

...all these and scores of other types... Send for Catalog T-48

Sweating

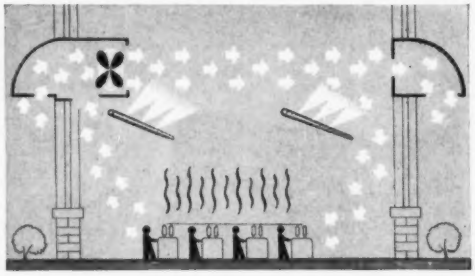
is "evaporative cooling" ...the hard way!

AMCO EVAPORATIVE COOLING IS THE EASY, INEXPENSIVE WAY to get rid of excessive heat. Because this way doesn't take it out of the worker in sweat and dragging fatigue. It gives precise control of both humidity and temperature which makes for a better product as well as a contented worker.

You already have a part of the system ... humidification. The rest can be easily added, room by room, as you need it. No cumbersome air ducts. Just an air inlet and circulating fan to draw in the correct amount of fresh air and an outlet for automatic exhaustion of excess heat and spent air through controlled vents. Adjustable for frictional heat load of each area. Maintenance kept at a minimum.

Just as simple and easy as it sounds ... and fully automatic. Ask an AMCO engineer to show you how inexpensively you can make your mill first choice of the most efficient workers, how you can boost both production and quality by the addition of an AMCO Evaporative Cooling System to your present humidification.

AMCO Evaporative Cooling Systems work this way... *A controlled amount of fresh air is drawn into the mill and combined with some re-circulated air. Spray from atomizers introduces extra moisture, raising relative humidity to desired point. Evaporation of moisture absorbs frictional heat, thus reducing excessive room temperature. Spent air is exhausted automatically through controlled vents.*



give you all these advantages... *Increase worker comfort ↑ ↑ ↑ Reduce excessive temperature and hold relative humidity at point best suited to fibre and process ↑ ↑ ↑ Permit faster machine speeds in high friction (heat) areas ↑ ↑ ↑ Assure evener yarn counts and increase breaking strength ↑ ↑ ↑ Gradually increase regain for good roving and consequent better spinning ↑ ↑ ↑ Drafting of fibres smoother and more compact ↑ ↑ ↑ Waste and fly greatly reduced ↑ ↑ ↑ AMCO self-cleaning atomizers assure constant, full capacity delivery ... no drip ... no feathering down ... minimum maintenance ... long life.*

AMCO

HUMIDIFICATION AND COOLING

AMERICAN MOISTENING CO., AFFILIATED WITH GRINNELL COMPANY, INC., PROVIDENCE, R. I. • BOSTON • ATLANTA • CHARLOTTE

IGEPALS

outstanding non-ionic surface active agents for wool, cotton and synthetic fibers.

- Excellent wetting, emulsifying and scouring properties
- Quick rinsing
- Readily soluble at all temperatures
- Equally effective in hard or soft water
- Neutral reaction
- Resistant to acids and alkalis
- Non-electrolyte—non-reactive
- Compatible with anionic and cationic compounds

Our skilled technicians are available for plant demonstrations.

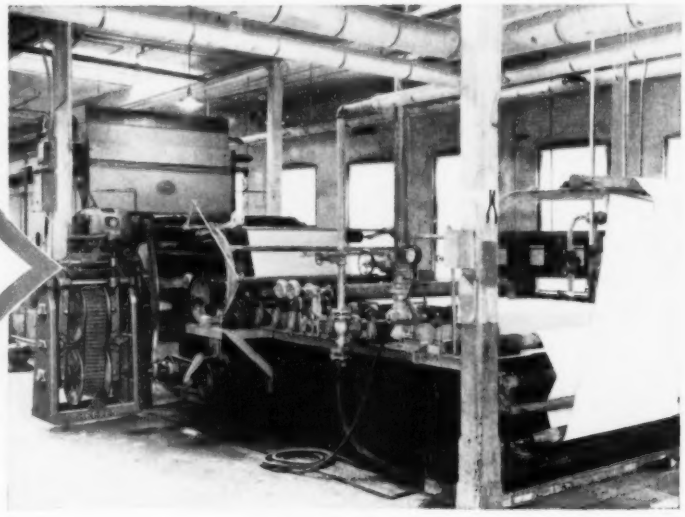
GENERAL DYESTUFF CORPORATION

435 HUDSON STREET, NEW YORK 14, NEW YORK

BOSTON · CHARLOTTE · CHICAGO · PHILADELPHIA · PROVIDENCE · SAN FRANCISCO

You Get Results—Right Now! with Reeves Speed Control!

This Carbonizing Range, built by James Hunter Machine Co., North Adams, Mass., employs a No. 3 REEVES Variable Speed Transmission of vertical, open design, with motor base and electric remote control. In processing woolens and worsteds, the REEVES unit delivers instant, accurate speed variations so that a wide range of materials may be passed through the same machine—from 8-ounce women's wear to 32-ounce overcoating.



When REEVES Speed Control is applied to machines for the preparation, fabrication, spinning, twisting or finishing of yarn or cloth, results—in the form of increased production, improved, uniform quality and reduced cost—are *immediate!*

Providing infinite, accurate speed adjustability—the *right* speed for every operation and every operator under every changing condition—REEVES Speed Control is available in a *complete* line of rugged, easy-to-maintain units adaptable to all types of textile mill machines.

REEVES TRANSMISSION meets the demand for heavy-duty service, higher horsepower output, wide speed range, automatic control. REEVES MOTOR PULLEY serves installations where economy, limited speed range, ease of installation, low horsepower output are the principal factors. REEVES MOTODRIVE is ideal for installations where space is limited, and where low output speeds are indicated.

To assure increased output, improved quality and reduced manufacturing cost in your mill, install REEVES Speed Control on machines now in service—insist on it for the new machines you plan to buy. A REEVES field engineer familiar with textile applications will be glad to help you make the correct choice of REEVES units, without obligation. Write for his name—also for the complete REEVES Catalog T13-450A.

REEVES PULLEY COMPANY • COLUMBUS, INDIANA

Recognized Leader in the Specialized Field of Speed Control Engineering

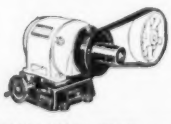
ACCURATE • VARIABLE

Reeves Speed Control

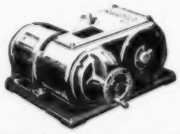
GIVES THE RIGHT SPEED FOR EVERY JOB!

The Three Basic Reeves Speed Control Units

VARIABLE SPEED TRANSMISSION *for* providing infinite, accurate speed flexibility over a wide range—2:1 to 16:1. Sizes—fractional to 87 hp.



VARI-SPEED MOTOR PULLEY *provides* an instantly variable speed drive within 4:1 ratio for any constant speed motor. Sizes to 10 hp.



MOTODRIVE combines motor, speed varying mechanism and reduction gears in single unit. Speed variations 2:1 to 6:1 inclusive. Sizes to 20 hp.

Built To Your Specifications By

EX-CELL-O

... a great name in the
precision machine tool field!

Ex-Cell-O has been making precision parts to customers' specifications for close to 30 years. Today, these Ex-Cell-O products include parts for the textile industry . . . from spindles and various small parts to large assemblies. Ex-Cell-O has the facilities—machines, heat treat, assembly, and inspection—to produce your precision parts economically, in small or large volume, and in accordance with your delivery schedule. For a quotation, send a part blueprint to Ex-Cell-O Corporation in Detroit today.

Bulletin No. 26181 describes Ex-Cell-O's textile products. Write now for your free copy.

EX-CELL-O CORPORATION DETROIT 32

XLO
EX-CELL-O for PRECISION

Announcing

A New Product for

DYERS and PRINTERS

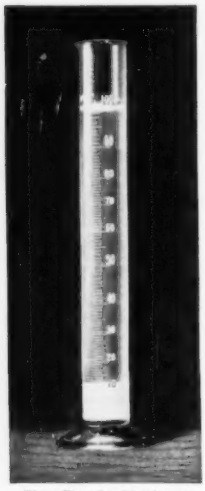
LOMAR PW the new dispersing agent developed by Jacques Wolf & Co., assures more efficient and economical processing.

• *In Dyeing*

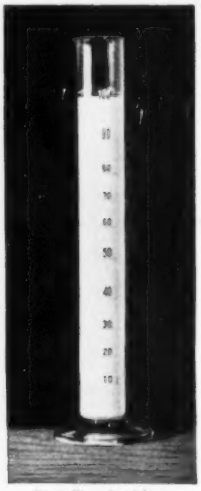
Level shades and uniform absorption of dyestuffs by the fibres, depend largely upon an even dispersion of colors in the dyebath. The addition of a small amount of LOMAR PW in pasting up indanthrenes or acetates solves this problem.

TYPICAL OF THE DISPERSING ACTION OF LOMAR PW

The contents of these two graduates are identical, except for a small percentage of LOMAR PW. Note the continued even suspension and dispersion in the right hand graduate after standing ten times as long as the one at the left.



Blanc Fixe after 30 minutes — no dispersing agent



Blanc Fixe after 5 hours — plus LOMAR PW

• *In Printing*

When added to the printing paste, LOMAR gives finer particle suspension, improved flow and smoother consistency. By keeping the colors in suspension, LOMAR PW assures efficient, economical results.

• *In Backfilling*

In backfilling, LOMAR PW is added to the heavy backfill mixture of clay and starches to give uniform suspension of the clay, good flowing properties and more uniform results on the fabric.

For complete information on LOMAR PW, send today for your copy of Bulletin No. 21.

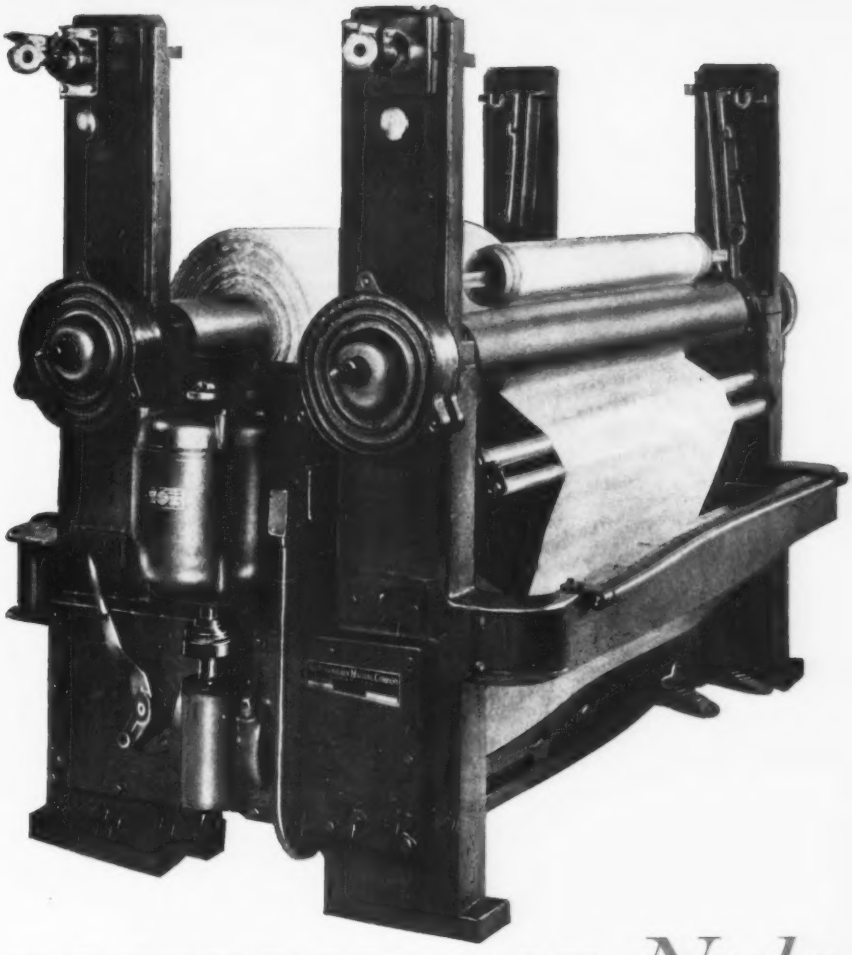
Plants and Warehouses

Plants: Passaic, Carlstadt, N. J.; Los Angeles, California

Warehouses: Providence, R. I.; Philadelphia, Pa.; Utica, N. Y.; Chicago, Ill.; Greenville, S. C.; Chattanooga, Knoxville, Tenn.

WOLF BRAND PRODUCTS

JACQUES WOLF & CO. *Chemicals* PASSAIC, N. J.



PREFERRED FOR *Nylon*

When dyeing Nylon a uniform, minimum tension is so important that this Van Vlaanderen machine is being used more and more. Here's why . . . both let-off and take-up rolls are driven simultaneously* giving a nearly constant cloth speed with a uniform, minimum tension.

Enclosures for this machine and automatic stopping and reversing equipment are available. We will be glad to have your inquiry.

* On conventional jigs the rolls are driven alternately and the tension increases with the speed as the take-up roll increases in size.

VAN VLAANDEREN MACHINE COMPANY

370 STRAIGHT STREET, PATERSON 3, NEW JERSEY

Cable address: Vlaanderen, Patersonnj, U.S.A.

World's largest manufacturer of machinery for processing modern fabrics.

Have you seen . . . THE NEW, "UNI-PULL" TEXTILE DRIVE?

This Most Modern Individual Belt Drive Lasts Longer . . . Is Easier on Bearings

When you modernize the power transmission in your mill, be sure to investigate the new "Uni-Pull" drive.

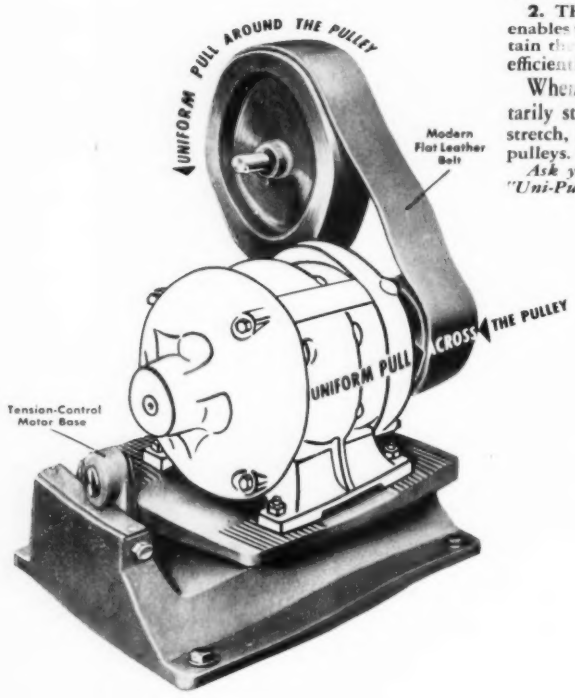
This compact, individual belt drive gives you uniform pulling power with minimum tension both across and around the pulley faces. Here's why.

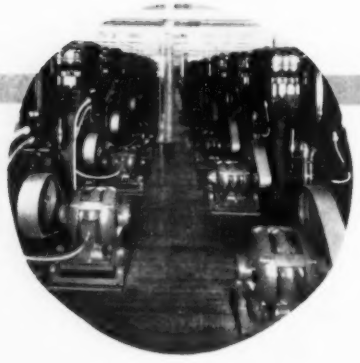
1. THERE'S ONLY *ONE* BELT . . . a modern, flat leather belt. This gives you the *same* strong pulley grip, the *same* pulling power over the entire belt contact area on the pulleys. No separate "pulls" that can become uneven. The entire face of the belt works as a unit . . . no part of it can ever loaf.

2. THE TENSION CONTROL MOTOR BASE enables you to predetermine and automatically maintain the proper belt tension to drive your machines efficiently.

When the belt "leans" into a peak load, it momentarily stretches. The base instantly adjusts for this stretch, keeping the tension the same around the pulleys. You get a smooth, fast, sure start.

Ask your leather belting supplier about the new "Uni-Pull" textile drive.





American LEATHER BELTING *Association*

Headquarters for Authentic Power Transmission Data

41 PARK ROW, NEW YORK 7, NEW YORK

AL-34

How CROSS Knitting Yarn is Produced

Is No Secret!

The machinery and equipment in our spinning mill looks pretty much the same as in any other mill. Even though ours is the most modern you'll see anywhere . . . even though it is constantly maintained to deliver top performance . . . we have no mechanical secrets for producing high quality knitting yarn. Machinery and equipment do not, however, disclose skill. That's where CROSS personnel, experience and production standards really count.

Others might match our machinery and equipment. Few mills, if any, can match our know-how. That's why more and more knitters are switching to CROSS Double-Carded or Combed Knitting Yarn. They are getting on the quality level where CROSS has been for thirty-three years.

Used by Knitters of Polo Shirts, Infants' and Children's Wear and Women's Underwear

SINGLE and PLY · BLEACHED or DYED · ON CONES

CROSS

COTTON MILLS COMPANY

MARION, N. C.

DOUBLE CARDED AND COMBED KNITTING YARNS

Representatives

Industrial Yarn Co.
351 Broadway
New York 13, N. Y.

J. J. Davis
250 S. 13th St.
Philadelphia, Pa.

Carl L. Miller & Sons
Utica, N. Y.

Joseph Klumpp Co.
407 Slater Trust Bldg.
210 Main St.
Pawtucket, R. I.

Causey Bros.
Southeastern Bldg.
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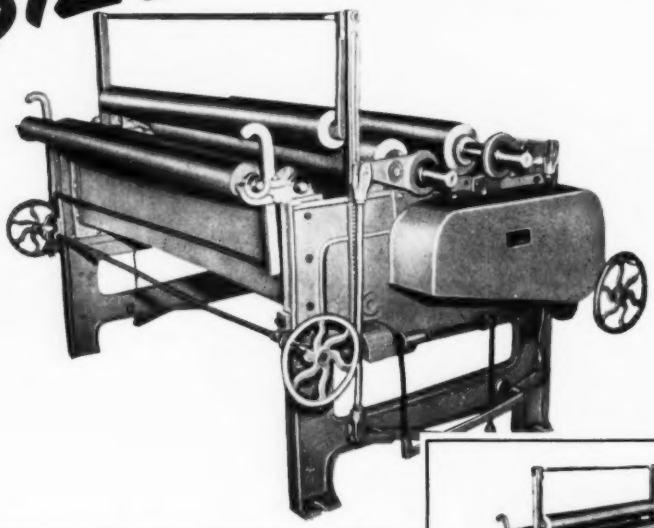
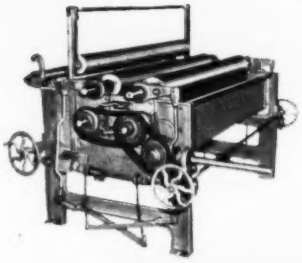
David F. Swain & Co.
222 W. Adams St.
Chicago 6, Ill.

SIZE BOXES

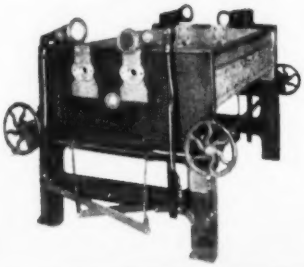




Above: Built of stainless steel, steam-jacketed, strongly braced. Steam jacket prevents dilution because no steam enters size. Chain drive covered.

Right, top: Ball bearings on size rolls. Ball bearing hangers on squeeze rolls hold them in perfect alignment and are connected to handwheel to permit raising for washing purposes. Note chain drive.

Right, below: View with rolls removed. Deep brass stuffing boxes will not leak size.



This size box is typical of the mill machinery developed and manufactured in our foundry and shop. We can help you to make your manufacturing economical and more efficient. Often equipment you already have can be modernized at minimum cost. We will gladly make a study of your equipment without cost or obligation and submit proposals with estimates. If we can help, write us.

WEST POINT FOUNDRY & MACHINE CO.

(Batson-Cook Company, Owners)

WEST POINT, GEORGIA

10 YEARS
of Three-Shift Service in a BUDAPEST MILL

Actual photograph of belt after 10 years (note brand)

...a MANHATTAN story of *Condor* CONE BELTS that outlasted previous types 30 to 1

Mr. H. M. Zilahi, Superintendent-Manager of the Goldberger Spinning and Weaving Mills in Budapest, Hungary, is a staunch believer in Manhattan quality. We quote the key paragraphs from a letter he sent to Passaic – entirely unsolicited:

"Ten years ago I visited some cotton mills in the United States and heard about the advantages of the 'CONDOR' cone belt for the flyer frames.

"The best type of our leather cone belts were running under our severe conditions (3 shifts, etc.) 3 months only.

"In 1937, we fitted therefore our flyer frames with 'CONDOR' cone belts, and now the wonder: 90% of those 'CONDOR' belts are running till now. After 10 years of running (mostly 3 shifts) they are in good condition."

During the war under pressure production, when the plant was bombed and its buildings badly damaged, Manhattan Condor Cone Belts came through to outlast the best previous types, 30 to 1. . . . And they are still in good shape, judging by the photographs that came from Budapest, (one of which is shown above).

Manhattan's line of Condor Rubber Products for the textile industry is consistently dependable–outstanding in quality and engineering. Make MANHATTAN your choice.

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RAYBESTOS-MANHATTAN INC.

Keep Ahead with Manhattan

MANHATTAN RUBBER DIVISION **PASSAIC, NEW JERSEY**

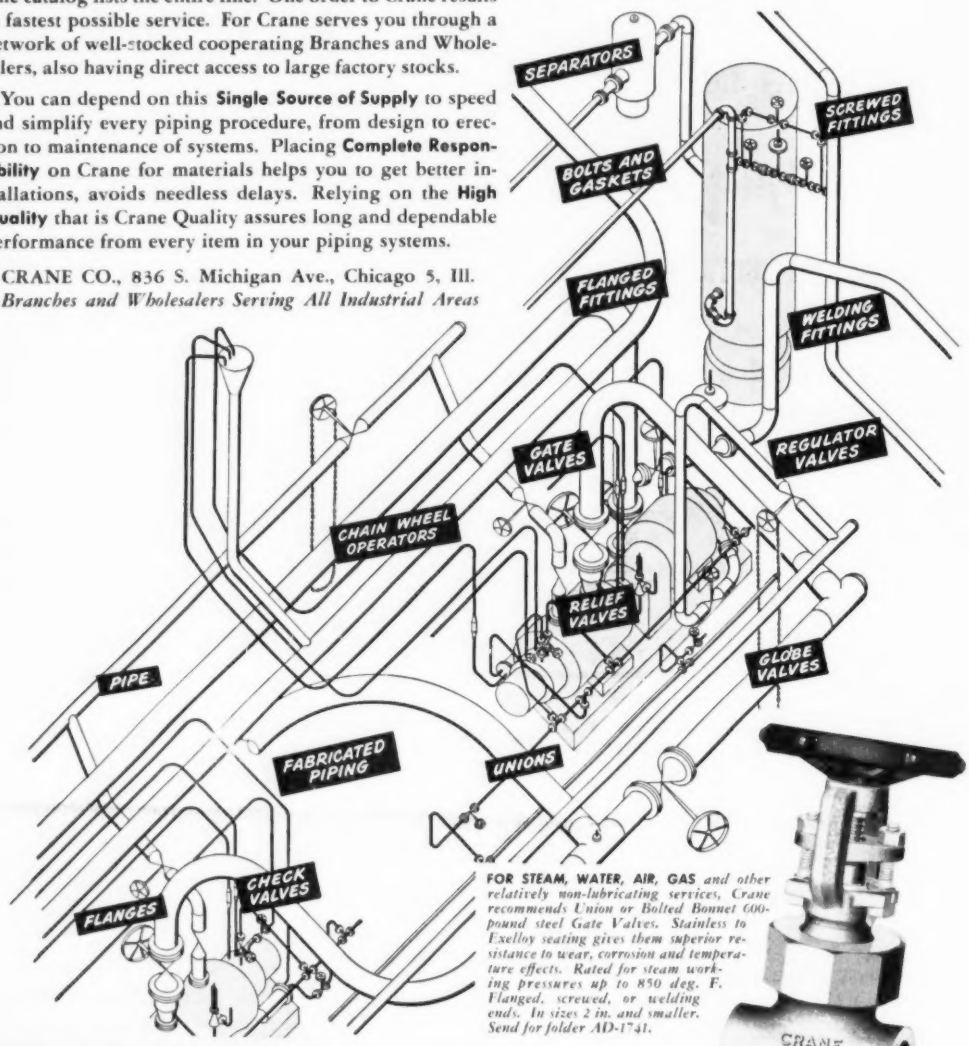
For every fluid . . . or working condition CRANE piping meets the need

For This Boiler Room Piping, for example . . . as for any pressure or temperature condition . . . Crane offers an unequalled selection of valves, fittings, pipe and accessories. One catalog lists the entire line. One order to Crane results in fastest possible service. For Crane serves you through a network of well-stocked cooperating Branches and Wholesalers, also having direct access to large factory stocks.

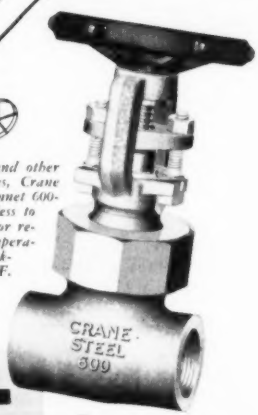
You can depend on this **Single Source of Supply** to speed and simplify every piping procedure, from design to erection to maintenance of systems. Placing **Complete Responsibility** on Crane for materials helps you to get better installations, avoids needless delays. Relying on the **High Quality** that is Crane Quality assures long and dependable performance from every item in your piping systems.

CRANE CO., 836 S. Michigan Ave., Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas

ONE SOURCE OF SUPPLY
RESPONSIBILITY
STANDARD OF QUALITY



FOR STEAM, WATER, AIR, GAS *and other relatively non-lubricating services, Crane recommends Union or Bolted Bonnet 600-pound steel Gate Valves. Stainless to Exelloy seating gives them superior resistance to wear, corrosion and temperature effects. Rated for steam working pressures up to 850 deg. F. Flanged, screwed, or welding ends. In sizes 2 in. and smaller. Send for folder AD-1741.*



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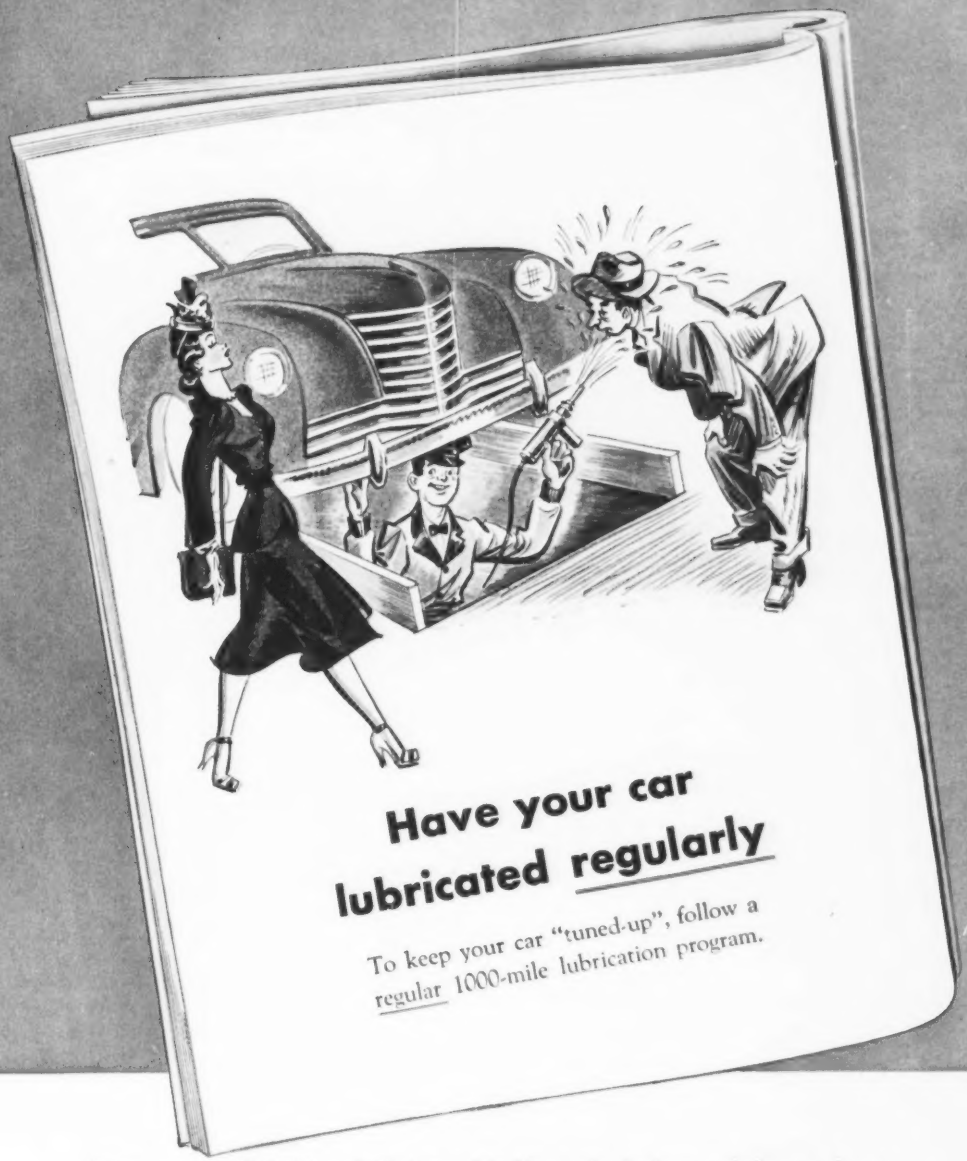

Have your Full-Fashioned Knitting Machines checked—regularly—to keep them at highest efficiency . . . Follow a regular program for reneedling and your needle bars are always in shape for better knitting . . . Follow a regular program for reconditioning and your plant is always at peak performance. We will be glad to discuss this matter of regularity as it applies to your mill operation.

TEXTILE MACHINE WORKS • READING, PA.

The "READING"
Full-Fashioned Knitting Machine

Uniform length where it matters

Check two or a hundred Textile Spring-Beard Needles for uniform length and you'll find that they are identically the same from butt to beard. This scientifically-accurate length is achieved through Textile's quality controls — automatic and electronic — that govern each stage of production.

Uniform length is just one of the numerous advantages you receive when you buy Textile Spring-Beard Needles for your needle bars. No detail is overlooked in the manufacture of quality-made Textile Spring-Beard Needles to bring you finer quality knitting.

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Textile

SPRING-BEARD NEEDLES

For Full Fashioned and Warp Knitting

on all anti-friction bearing spindles - - -

Whitin ANNOUNCES

Whitin-SKF
ROLLER BEARING SPINDLES
ADOPTED AS STANDARD

Cylindrical Type, medium duty—for use with standard bobbins and paper tubes.
Oil Cushion Ring Brake Type, heavy duty—provides effective damping action and additional flexibility for heavy out-of-balance loads.

Behind this decision to standardize on Whitin-SKF are long years of exhaustive tests and experience with many installations in this country and abroad.

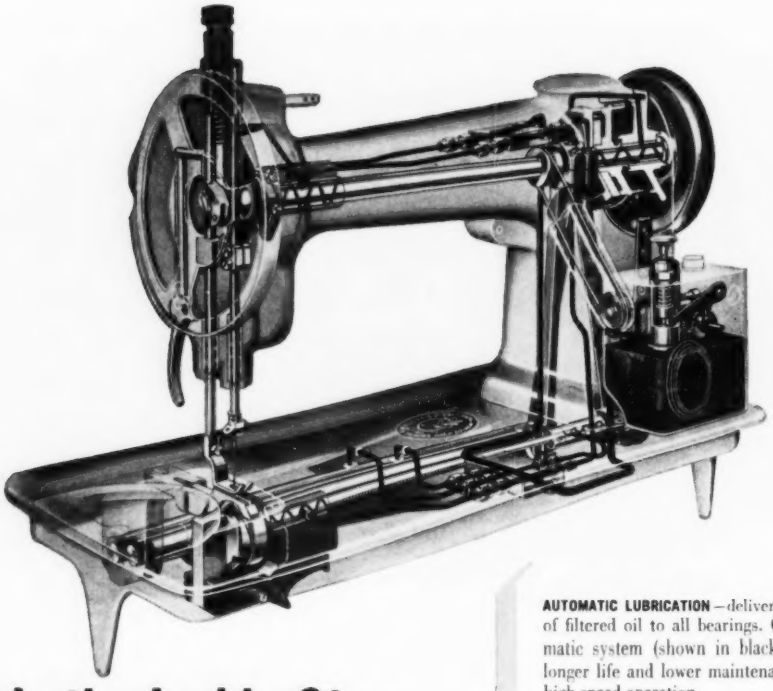
Over these years many types of anti-friction bearing spindles have been introduced, but the SKF Roller Bearing Bolster Type is the only one that has given satisfactory service for over 25 years.

Check these advantages:

- *Simplicity and ease of replacement* SKF Bolster can be removed and replaced without replacing case or spindle blade
- *Power savings averaging 15%*
- *More uniform twist . . . higher breaking yarn strength . . . less ends down*
- *Oil throwing eliminated* . . . resulting in cleanliness, thereby requiring less cleaning and affording greater tape life

Our engineers can show you how replacement with Whitin-SKF Roller Bearing Spindles can add to your profits. SKF Industries, Inc., Philadelphia 32, Pa. 6594

SKF



Here's the Inside Story of the "W&G" Lockstitch

...the precision features that mean higher production at lower cost

Chances are, you'll never see what's *inside* the W & G Lockstitch machine. Few people ever do. For it is precision built throughout, to stand up under the most severe operating conditions, year after year, with minimum attention and maintenance. Owners, operators, and maintenance men agree that this is the most trouble-free machine of its type ever developed.

In the W & G Lockstitch machine, you'll find advanced design features that mean more production at lower overall cost – faster, higher-quality stitching with less effort on the part of the operator.

For complete information on this – the most widely used of all W & G machines – write today for your free copy of Bulletin No. 886.

AUTOMATIC LUBRICATION – delivers correct amount of filtered oil to all bearings. Completely automatic system (shown in black above) assures longer life and lower maintenance at sustained high-speed operation.

BALANCED DESIGN – assures quicker stopping and starting – minimizes vibration.

FLOATING BOBBIN CASE – requires no lubrication, and avoids possibility of soiling thread. Easier to remove and replace.

BELT DRIVE – contributes to smoother operation, free from the back-lash encountered with gear drives.

WHEEL-TYPE TENSION, of rotary design – permits use of lighter and more economical threads without affecting tension.

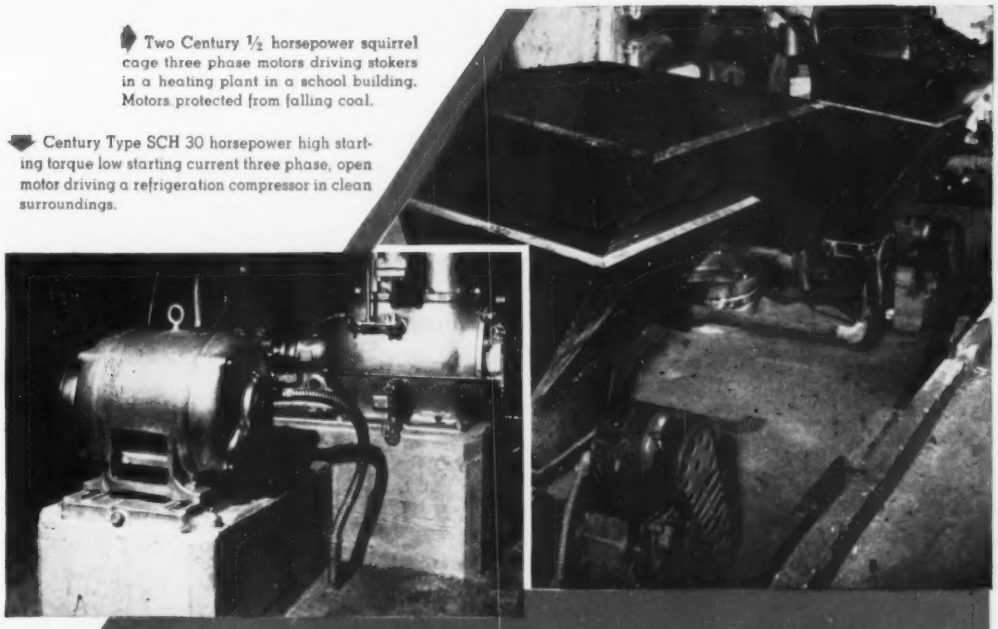
ROTARY THREAD TAKE-UP – capable of handling fine cotton and silk threads at high speed.

WILLCOX & GIBBS
Sewing Machine Co.

214 West 39th St., New York 18, N.Y.

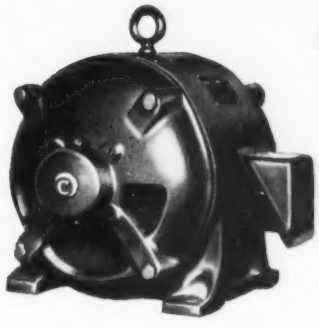
Two Century ½ horsepower squirrel cage three phase motors driving stokers in a heating plant in a school building. Motors protected from falling coal.

Century Type SCH 30 horsepower high starting torque low starting current three phase, open motor driving a refrigeration compressor in clean surroundings.



From Century's Wide Range of Types and Sizes

You Can Select the RIGHT CENTURY MOTOR to Provide LONG CONTINUOUS OPERATION



Century C MOTORS

Many thousands of types and kinds of Century motors are available to satisfy all popular electric power requirements. You can be confident that the *right* Century motor on your equipment will provide a long life of satisfactory performance.

Century motors must pass 3 tests that assure satisfactory operation: (1) The exacting tests at the Century factory; (2) the tests of the thousands of manufacturers who install Century motors on their equipment, and (3) the satisfactory performance of these motors in the hands of the final user.

Century builds a wide range of types and kinds of electric motors, in sizes from 1/6 to 400 horsepower.

Specify Century motors for all of your electric power requirements.

Popular types and standard ratings are generally available from factory and branch office stocks.

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Offices and Stock Points in Principal Cities

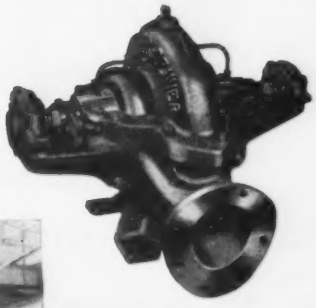
You Can Trust
WHITNEY
Silent Chain
To Help Maintain Uniformity of Weaves

If you are a weaver of cloth or a manufacturer of textile machinery you can trust Whitney Silent Chain to help you maintain quality. The *positive*, smooth flowing power transmitted by Whitney Silent Chain assures product uniformity . . . cuts down seconds and rejects. Productivity is increased because full power is transferred from driver to driven mechanism. In addition, Whitney Silent Chain provides long operating life with minimum maintenance. It withstands shock loads without breakage. And to complete the positive drive combination, use Whitney Silent Chain and accurately Cut Tooth Sprockets . . . *the all-steel drive.*

Want more information? Our catalog will be gladly sent on request.

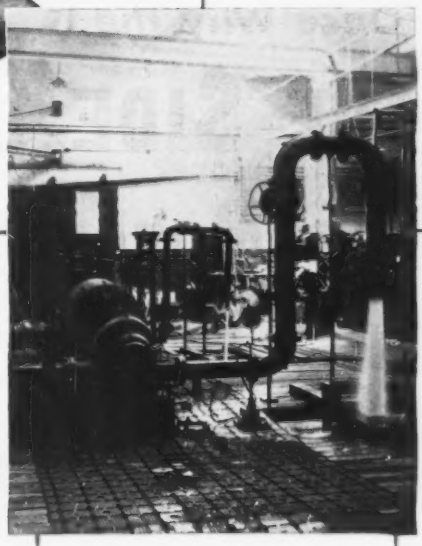
The Whitney Chain & Mfg. Co.
211 HAMILTON STREET, HARTFORD 2, CONNECTICUT

FOR HANDLING FLUIDS CONTAINING SOLIDS up to 6 inches in diameter, Gardner-Denver Sewage and Waste Disposal Pumps are built in capacities from 50 to 5000 gallons per minute.



RUGGEDLY CONSTRUCTED FOR LARGE CAPACITY Gardner-Denver Horizontally Split Case Double Suction Centrifugals are available in sizes for all heads up to 300 feet.

COMPACT Gardner-Denver Close-Coupled Centrifugal Pumps may be installed in any horizontal or vertical position—are designed for capacities up to 250 gallons per minute and heads up to 250 feet.



Gardner-Denver's modern hydraulic testing laboratory, showing centrifugal pump direct connected to Dynamometer for efficiency test.

FOR GENERAL UTILITY SERVICE Gardner-Denver Side-Suction Centrifugal Pumps are made in capacities up to 1600 gallons per minute and heads up to 100 feet.

Fully Tested For Full-Value Efficiency Gardner-Denver Centrifugal Pumps

Since 1859

You can be sure of getting *full-value* efficiency on every one of your pumping jobs when you insist on Gardner-Denver *fully tested* Centrifugal Pumps. For every Gardner-Denver pump you buy has already proved its dependability and power economy—through thorough and accurate testing in our modern hydraulic laboratory, completely equipped with the best and most accurate testing equipment available. It's no wonder these popular pumps so easily attain and often exceed their rated efficiencies in hundreds of different kinds of pumping installations.

For expert advice on selecting just the right Gardner-Denver Centrifugal for any installation, or for further information on any of the pumps described here, write Gardner-Denver Company, Quincy, Illinois.

GARDNER-DENVER

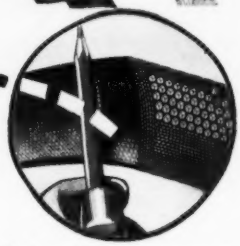
Atlanta, Ga.; Birmingham, Ala.; Boston, Mass.; Knoxville, Tenn.; Washington, D. C.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; New Orleans, La.

Make this Test with ANY V-Belt

You'll See at Once Why the

CONCAVE SIDE---

(U.S. Patent No. 1813698)



Saves You Money!

Bend any V-Belt and feel the sides change shape. The top of the belt, under tension, *narrows.* The body, under compression, *widens.* The sides of the belt bulge out.

The result, if the belt is built with *straight sides,* is a shape that does not fit the sheave groove—as shown in Figures 1 and 1A, below.

Straight-Sided V-Belt

How Straight-Sided V-Belt Bulges in Sheave-Groove

Clearly, the bulging of the sides will produce excessive wear along the *middle* of the sidewall as indicated by arrows.

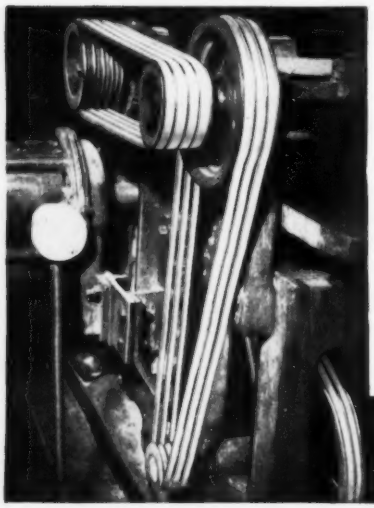
Now, bend a V-belt with the *concave* side—the Gates Vulco Rope.

You get the same shape change but *now* the new shape exactly fits the sheave groove—as shown in Figures 2 and 2A.

Gates Vulco Rope with Concave Side.

No Side Bulge. Precise Fit in Sheave-Groove.

Results? (1) *Uniform* sidewall wear; *longer life!* (2) Full sidewall grip on the pulley. Carries heavier loads and *sudden load increases* without slippage; saves *belts* and also saves *power!*



The Concave Side is *MORE IMPORTANT NOW* Than Ever Before

Because the *sides* of a V-Belt are what actually *drive* the pulley, it is clear that any increased load on the belt means a heavier load that must be transmitted to the pulley *directly* through the belt's sidewalls.

Now that Gates *SPECIALIZED* Research has made available to you SUPER Vulco Ropes—carrying fully 40% higher horsepower ratings—the life-prolonging Concave Side is naturally more important in conserving belt life today than ever before.

THE GATES RUBBER COMPANY
DENVER, U.S.A.
The World's Largest Makers of V-Belts

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Gates

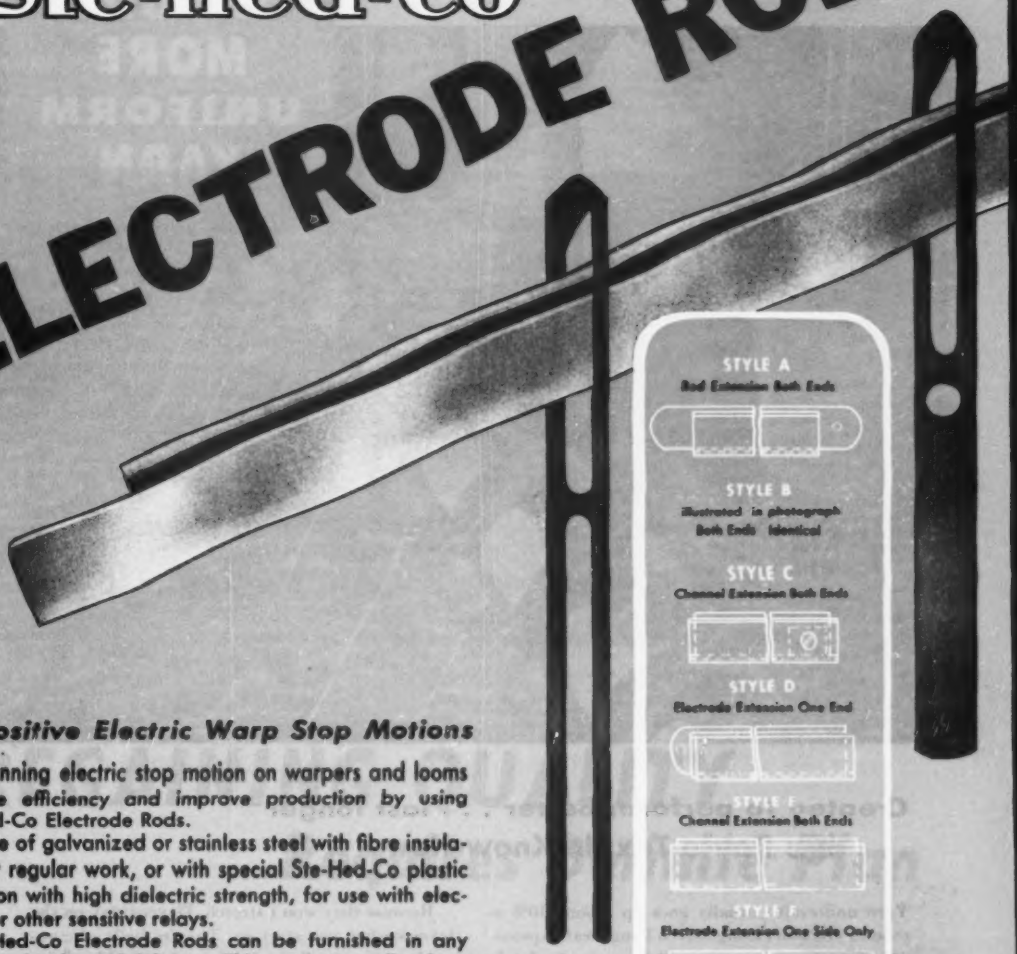
The Mark of SPECIALIZED Research

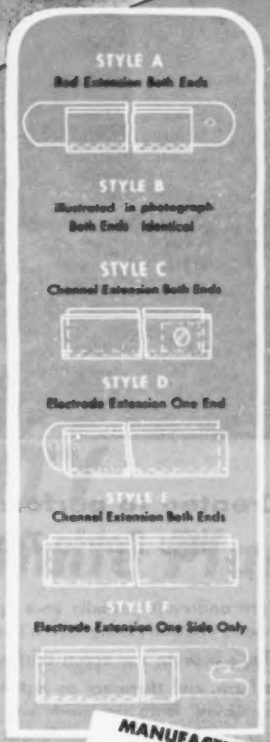
GATES VULCO ROPE DRIVES

Engineering Offices and Jobber Stocks **IN ALL INDUSTRIAL CENTERS** of the U. S. and 71 Foreign Countries

Ste-hed-co

ELECTRODE RODS





For Positive Electric Warp Stop Motions

Mills running electric stop motion on warpers and looms increase efficiency and improve production by using Ste-Hed-Co Electrode Rods.

Made of galvanized or stainless steel with fibre insulation for regular work, or with special Ste-Hed-Co plastic insulation with high dielectric strength, for use with electronic or other sensitive relays.

Ste-Hed-Co Electrode Rods can be furnished in any length and style, and delivery will be prompt on all orders.

Ste-Hed-Co Drop Wires made in weights for all sizes of warp yarn in galvanized, copper, nickel finish and stainless steel.

MANUFACTURERS OF —

Flat Steel Heddles
Loom Harness Frames
Loom Reeds
(Pitch Band and All Metal, Regular and Stainless Steel Wire)
Warp Preparation Equipment
Loom Harness Accessories
Electrode Rods
(Fibre and Plastic Insulation)
Southern Shuttles
(Tempered Dogwood, Persimmon and Fibre Covered)

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STEEL HEDDLE MFG. CO.

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SOUTHERN SHUTTLES DIVISION 621 E McBee Ave Greenville S C and Paris S C

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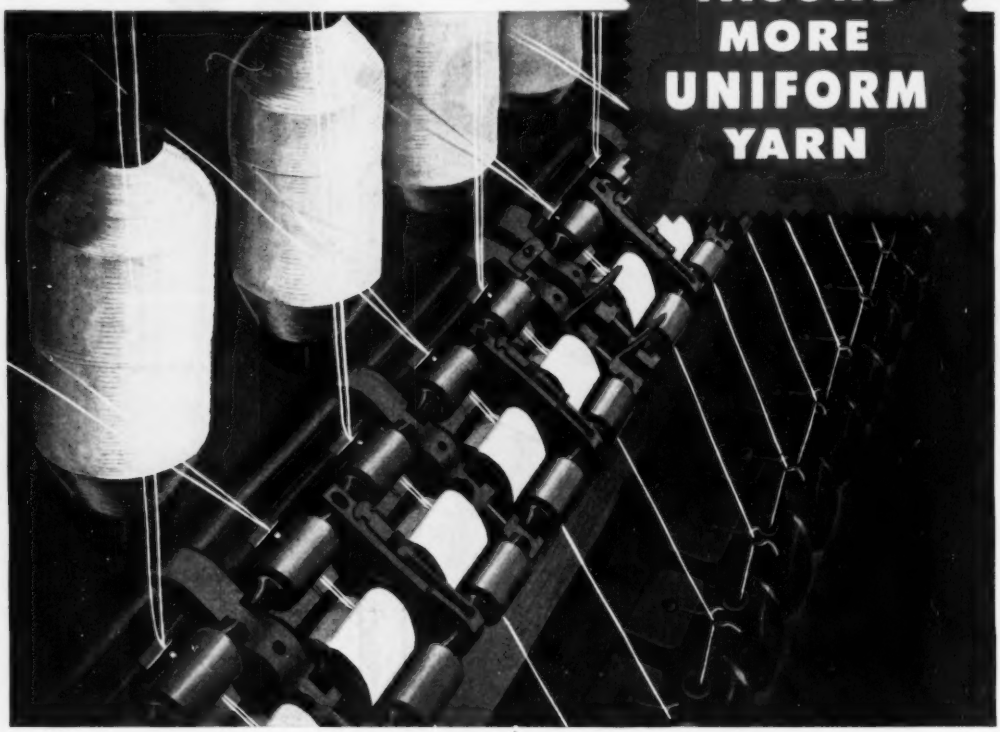
DAYCO long draft APRONS

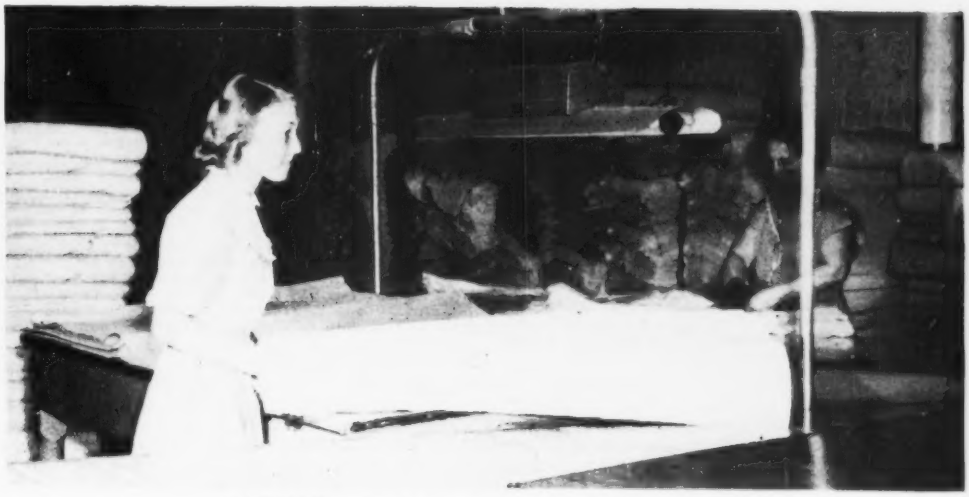


Created to perform better . . . last longer . . . thru Dayco Textile Know-How

Yarn uniformity usually goes up around 10% as soon as you start using Dayco Long Draft Aprons. That's because the apron thickness is absolutely uniform, and there are no laps or splices to tear the slivers. Both the inside and outside surfaces have exactly the right coefficient of friction. The long-wearing, satin-smooth finish stays clean, gathers no lint. It's white. Eliminates yarn marking. Keeps yarn clean.

Because they won't stretch, Daycos stay on the frames when you start up. They're built of man-made and controlled special synthetic rubber, plus strong Raytex Fortified Cord. They have crosswise rigidity. No inside rib. They won't curl, wrinkle, distort, split or crack, and they won't groove. Wonderful for cottons and synthetics. For aprons that last longer, write: *The Dayton Rubber Co., Textile Division, Woodside Bldg., Greenville, S. C.*

Dayton Rubber



CLOTH ROOM operators may spend 95% of their time removing defects.

REGAINING QUALITY
Requires Definite Plan

HIGHLIGHTS: *Quality losses in one mill estimated at $500,000, actual was $2,000,000—Five-point program can be effective—A few defects may account for over 90% loss in quality—Quality-control department should cost 3 to 5% of total quality loss.*

By E. M. FINDLEY, JR.
Management Consultant, East Chester, N. Y.

TEXTILE MILLS TODAY are faced with two major problems in attempting to improve quality: (1) slipshod thinking and workmanship on the part of employees, and (2) the method to be used and the cost of additional inspection needed to improve quality.

Operators, and in many cases supervisors at various levels, have been getting by with very poor quality for so many years that bad habits of long duration are found hard to overcome.

The training of supervisors to produce better quality is a comparatively easy task. However, gaining the cooperation of a large number of operators and training them to think quality and produce quality requires a well thought out and administered plan.

Management is faced with deciding what quality-control method should be used and with evaluating the necessity of not adding to the cost of the product through increased inspection. Inspection adds nothing to the value of a product unless indirectly it causes the operator to produce better quality by eliminating rework and other quality losses, such as losses due to sales of seconds or allowances given.

Quality-control methods in some other industries have one major advantage over textiles. In them operators generally are paid for good pieces produced only and in many cases must do their own repair work at the expense of their piece-work earnings. In textile mills, this situation is reversed

Sheeting Defects, Quality Loss, Defect Rates, and To Whom Charged

No.	Defect	Quality Loss Defect Rate	Charge to
1	Thin Place	0.218	Weaver
2	Wrong Draw	0.097	Weaver
3	Doubling	0.147	Spinning
4	Uneven Filling	0.097	Spinning
5	Warp End Out	0.097	Weaver
6	Cotton Slubs	0.054	Spinning
7	Hard Size	0.097	Dressing
8	Float	0.218	Weaver
9	Misreed	0.069	Weaver
10	Skips W. & F.	0.081	Weaver-Fixer
11	Jerk-ins	0.035	Weaver-Fixer
.....			
24	Miscellaneous	0.114	Weaver-Fixer

DEFECT VALUES can be determined, similar to those shown. Operator responsible for defects can also be shown.

WHAT QUALITY CONTROL DOES

1 Provides a non-financial incentive and other leverage methods for operators to produce better quality.

2 Allocates the quality loss caused by defects in cloth to the second hands and overseers responsible. This allocation includes loom-sets, weave sheds, spinning and other preparatory departments, finishing, etc.

3 Quality-control reports are provided weekly or semi-monthly in order that management will have control over quality similar to that over production.

4 Will make possible a substantial direct saving to the company. (In one company, this saving amounted to approximately $1,000,000 yearly.)

5 Inefficient weavers, fixers, overseers, second hands, etc. will be shown up, as management will have their quality-loss as well as production reports. The second hand with the greatest production may not now be producing the most income for the company.

6 Management will also be in a position to identify quickly the equipment causing excessive defects. (In one large cotton mill, a quality-control plan "showed up" 150 looms that were producing excessive number of defects. The 150 looms were then taken out of production to be rebuilt.)

—the weavers, for example, are paid by the pick-clock count and lack sufficient incentive to produce quality.

The old method of "show-ups" to weavers and fixers at gray inspection often leaves the employees unresponsive. The procedure provides insufficient incentive and does little to impress on the operator the absolute necessity of producing better quality.

The idea of providing a financial incentive was considered but was discarded in favor of providing non-financial incentives.

UNDERESTIMATE LOSS. Textile-mill management generally is not aware of the huge losses being sustained due to poor quality, and in some cases underestimates these losses by two-thirds. In one company, a survey revealed the actual quality loss to be in excess of $2,000,000 yearly, whereas the management had assumed it to be approximately $500,000. Management has the tendency to consider only those losses due to sales of seconds and allowances given as quality losses; it overlooks such items as the cost of operating cloth rooms, losses in waste, and many other quality losses.

It was found during a survey of the gray-inspection room in a sheeting mill that 95% of operators' time was spent burling the cloth and only 5% of the time actually inspecting. In other words, if there were no defects in the cloth to be burled, nearly 95% of the cost of operating clothrooms could be eliminated. In some companies, the cost of operating inspection rooms amounts to over $500,000 yearly; and as this cost is in almost direct proportion to the number of defects in the cloth, the cost-saving potential through eliminating defects is considerable.

Another item to be considered is trade acceptance of product. Operators of cutting rooms desire cloth as free from defects as possible. Defects increase their cutting costs and their losses due to sales of seconds. This quality loss, however, is rather hard to substantiate and will not enter into the calculations here.

The foregoing outline has been made to establish the fact that a sound quality-control program will increase the quality of the product and at the same time will be an effective means of reducing costs.

Textiles have entered a period in which all methods of reducing costs should be thoroughly investigated. Management has expended considerable effort and money installing modern equipment, production methods, and incentives; but it has done little to control and provide an incentive for operators to produce quality. The writer has seen one mill with an installation of 500 new looms producing disgraceful quality. The human element obviously is the primary cause.

Contrary to generally accepted belief, an operator with no "show-ups" can be responsible for losses exceeding those with "show-ups"; and, also, mill seconds provide no reliable yardstick of quality losses due to defects.

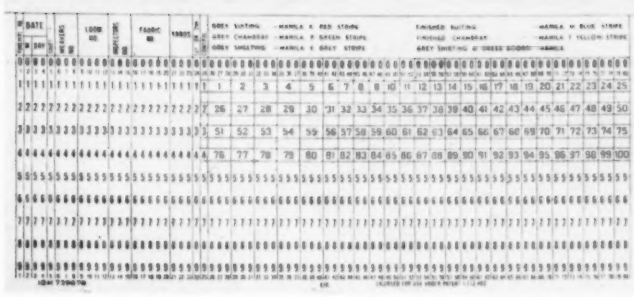
5-POINT PLAN. A brief general outline of the methods and procedures required to make a quality-control plan effective are given in the following paragraphs.

1. All cloth defects can be identified and defined; source, cause, and responsibility can be determined. Mill executives and overseers can participate in this investigation and express their viewpoints as to which job or jobs were responsible. Once detected, the causes can more easily be traced back to their original sources and be corrected by the responsible persons.

Three objectives will be accomplished: an acceptable basis for quality-loss distribution over operators and departments, a common understanding of all defects, and a mutual agreement as to responsibilities.

2. By means of a defect form and a recording board, thousands of defects can be accurately recorded daily by the cloth-room inspectors. The clerical time required will be insignificant and in some cases less than the clerical time required at present. The defects should be recorded by loom set by shift.

It was found, in one case, that 50% of the different types of defects accounted for 97% of the total defects and of quality loss; so in order to simplify the recording and later the tabulating procedures, the 50% of the defects accounting for only 3% of the total defects were classified as miscellaneous. Any miscellaneous-defect column should be checked every



***BUSINESS-MACHINE CARDS** can be used for quick summaries or analyses of defects produced.*

few weeks to determine if the total has risen over 3%.

The defect card can contain the number of defects by type, loom set number, fabric number, number of yards, shift, date, and any other pertinent information required.

3. An actual quality-loss value must be determined for each defect that is going to be recorded and tabulated.

Timestudies can be made in the gray-inspection department of the actual time required to repair those defects that can be repaired, and studies can be made of the actual inspection time, marking time, cut-out time, etc. The labor, burden, and material costs of operating the inspection departments—minus the costs required for inspection only, if cloth were free from defects—should be allocated to the various defects.

Revenue losses due to sales of seconds, allowances given, and other causes are allocated to the various defects according to the seriousness of the defect. For example: a defect such as a thin place may cause ½ or ¼ yd. to be allowed, which loss would be charged directly to the defect.

Through the foregoing studies and other similar cost-allocation methods, the quality-loss value for the various defects will be accurate and can be easily substantiated.

The defect values for the various items listed as miscellaneous defects should be totaled and listed as the miscellaneous quality-loss defect value. This miscellaneous defect value should not be over 5% of the total quality-loss defect values.

The quality loss of bleachery and finishing departments can be determined by calculating a quality loss value per yard of seconds. The number of yards of seconds produced during the period by the respective departments can then be multiplied by this quality-loss value, which gives the total quality loss for the period.

A master tabulating card can then be prepared to show the defect name and the quality-loss defect value rate.

4. The defect forms and seconds reports can be received from the cloth rooms daily in the tabulating department. (IBM or Remington Rand tabulating equipment may be used.) The information from the defect forms can be punched in tabulating cards and verified so as to the total number of the various types of defects per loom set or operator per week.

The tabulating cards in which defects have been recorded can be collated weekly by operator and or departments and automatically multiplied by the rates contained in the defect master cards. This procedure will convert defects into the actual quality loss, or the loss in dollars, the company has sustained during the week.

5. The tabulating department should be in a position to prepare automatically from the defect cards various types of management quality-control reports. The major reports needed are outlined in the following:

A. Departmental quality-loss report. This report may be prepared weekly, semi-monthly or monthly as desired and should show management the actual quality loss in dollars the company has sustained in the spinning, warping, slashing, weaving (by overseer and second hands), and finishing departments. Comparisons are to be made monthly to show the gain or loss and to show if any improvements made have been effective in reducing the quality losses. This report will give management quality control over overseers and second hands. It provides an incentive for overseers and second hands to strive for better quality in their respective departments, as they know management has a complete record of losses sustained due to poor-quality cloth.

B. Operators' quality-loss report. The quality losses for the individual weavers, fixers, battery hands, cleaners, etc. can be calculated and lists made up for each job class. For example, the weavers' list will show the weaver with the least quality loss listed first, along with the amount of loss, and the weaver with the greatest loss listed last. These lists for the various groups of operators are for posting in the weave sheds. Pride, being a very strong incentive, will cause the operators to strive for better positions on the list, which is the incentive to produce better quality. Prior to posting the lists in the weave sheds, the cooperation of the operators and union (if any) must be gained. There are many selling points that can be used, such as better quality bringing lowered sales resistance, greater sales, more jobs, or a full work week for those now employed. A textile-workers union approved this type of quality incentive in a large cotton mill after little or no argument. The operators' quality-loss statement may be used when considering up-grading or down-grading. More training may be required. Second hands should spend more time with those operators with high quality loss. The poor quality of operators will be shown up to supervision. The quality-loss record of the operator may be incorporated in a merit-rating plan and at a later date be tied in with an incentive plan. There are many ways this operators' quality-loss record may be used, depending on the particular mill.

C. Loom-set quality report. This report can provide management with information regarding the number of defects by loom set. A loom set producing an excessive number of defects should be immediately checked and the loom or looms causing the defects identified.

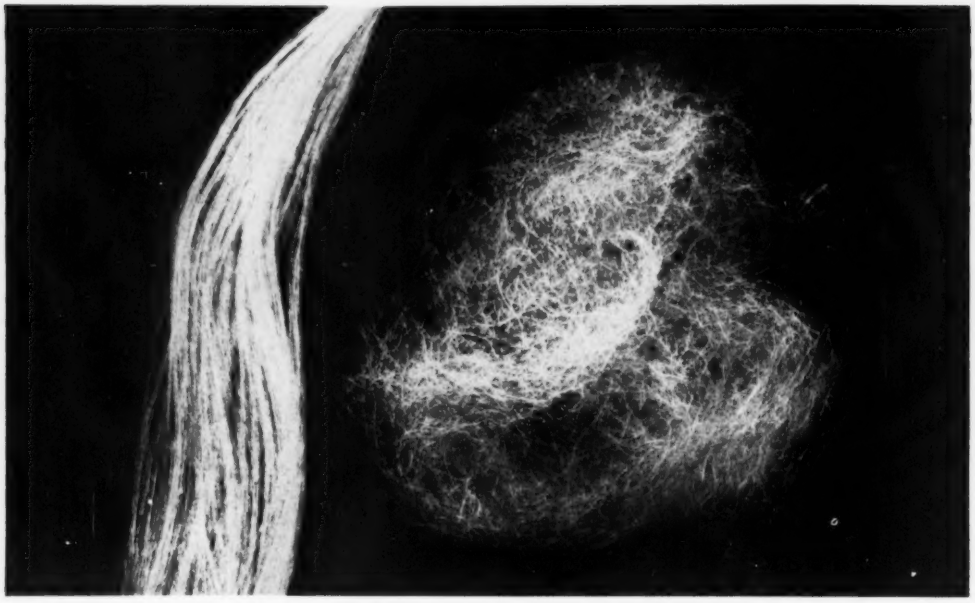
The quality-control department can tabulate the defects by looms in such cases. Defects need not be tabulated by loom from the beginning, due to the extra clerical time involved.

D. Seconds' report by loom set. This report will show the number of yards woven, cause of each second, and the shift when it occurred.

E. Fabric report. This report can show the number of yards and defects by style.

Cost of operating a quality-control department depends, of course, upon the size of the mill. However, the cost generally should range between 3% and 5% of the total quality loss the company is sustaining. The cost is nominal, as it is conservatively estimated that the quality loss can be reduced by 50% at the end of one year of operation.

The cost of operating the quality-control department is a variable cost; as the quality improves, there are fewer defects to record, and clerical time is reduced.



Monofilament and Staple AZLON Produced

Properties of CASLEN*

Strength:
0.8 to 1.0 g.p.d.

Elongation:
20 to 25%

Elastic recovery:
Similar to wool

Tensile stress:
10,800 to 16,500 psi.

Specific gravity:
1.29

Regain (absorption):
10 to 15%

Water absorbency:
Similar to wool

Burning rate:
Very slow

Effect of acids:
Stable in weak; carbonized by strong

Effect of alkalis:
10% solution will dissolve; attacked by mild

Effect of organic solvents:
Insoluble

Dyes used:
Same as for wool

Resistance to moths:
Attacked

Resistance to Mildew:
Attacked

* Trademark of Rubberset Co. for its azlon fiber.

HIGHLIGHTS: *New casein fiber ranges from 145 to 1330 denier per filament—Developed for bristle but now finding other uses—Being blended with wool in air-cleaner felt.*

By C. W. BENDIGO
Editor, TEXTILE WORLD

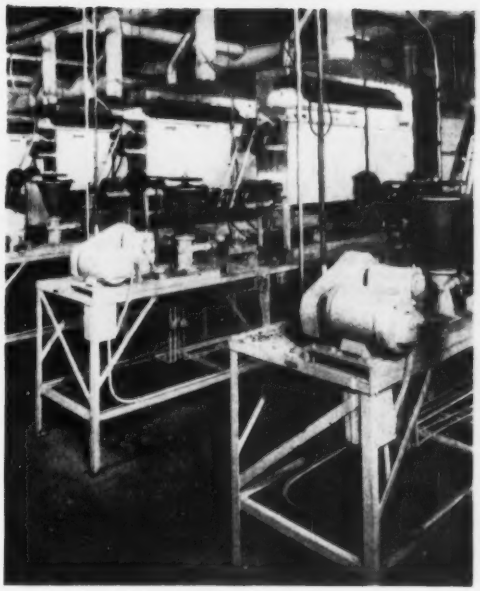
TEXTILE MILLS are showing interest in a new casein fiber that is currently being produced in monofilament and coarse-staple form. The fiber, originally developed for use as paint-brush bristle, is being spun in filaments of 145 to 1330 denier. Fiber is produced either curled or straight.

The monofilament form is a potential substitute for horsehair in fabrics; in fact, in curled staple form it is currently being used to replace hair in mattresses. Other possible uses seen for the continuous-filament yarn are similar to those in which plastic monofilaments are today being used. Its strength does not come up to that of saran, for example, but the fiber is resilient and not thermoplastic.

Staple "Caslen" (trademarked name of the producer, Rubberset Co., Newark, N. J.) is being experimented with in blends with rayon. A commercial use today is in a blend with wool for making a filter felt. The coarseness of the fiber rather eliminates its use alone for yarn; but mixed with other fibers, Caslen should give novel effects. It is entirely possible that industrial or home-furnishing uses will be more significant than clothing uses.

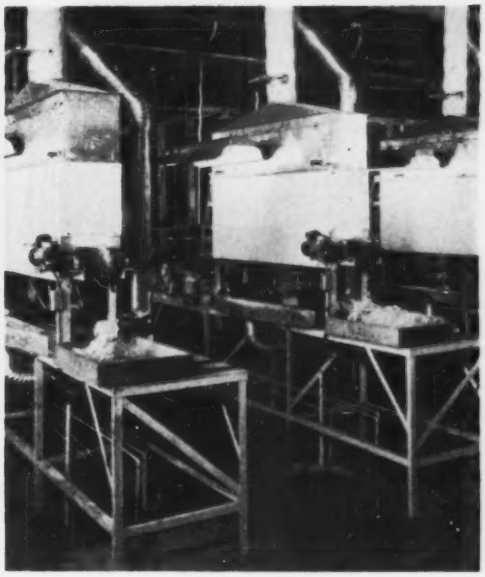
The fiber dyes easily. It softens and increases in elasticity in hot water but recovers fully upon drying. It is attacked by even mild caustics but withstands mild acids.

Although stretched immediately after spinning, the fiber does not ap-



FEED END

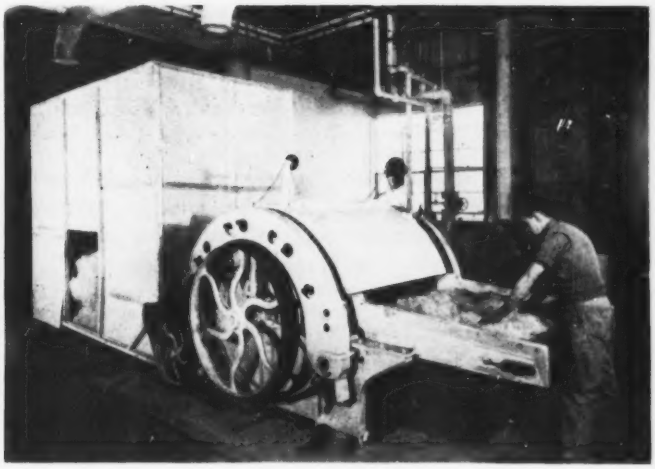
HOPPER holds dry casein which is melted and extruded through spinneret. A bath keeps fibers from sticking together.



DELIVERY END

OVERFEED to dryer apron produces curl, when wanted. Underneath dryer is "tanning" bath in which filaments are stretched.

AFTERTREATING includes washing and extracting.



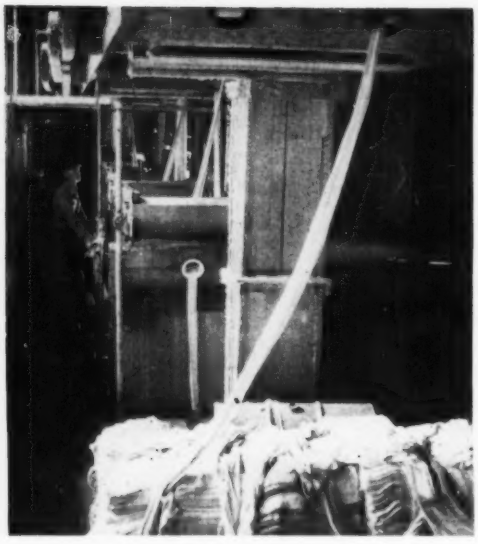
NEW FIBER is opened in garnett-type picker. The staple is then taken and packed for shipment.

pear to have residual shrinkage, at least in curled form. It is curled in a relaxed condition on a conveyor that carries the fiber through a drying chamber. It can withstand 200°F. for 3 hr. without permanent damage if allowed to condition afterward.

The new azlon is produced in a continuous-spinning machine. Prepared casein is fed into a hopper at one end and curled staple or continuous-filament yarn comes out the other, as shown in the photographs. From the spinneret, the fiber goes through an anti-sticking bath and is stretched and hardened (tanned) in a formaldehyde solution. Aftertreating consists of washing and drying. Staple is opened on a garnett before being packed.

Knots tied in the fiber have only half the breaking strength of the original yarn. The low strength of the continuous-filament yarn must be reckoned with during textile processing.

At present the production of the Caslen plant at Salisbury, Md., is being used in felts and mattresses. Trial lots only are being used, so far, by textile mills.



CONTINUOUS BLEACHING of cotton jersey is cheaper than kier work only when volume going through is enough to keep the machine busy.

Chlorine Bleach for Cotton Jersey

A chlorine bleach giving a fair white may be achieved as follows:

1. Detergent 1% (by weight of goods); 3% Solozone, or equivalent Bleachite; boil 30 min. and drop bath. Give goods a hot rinse at 170° F. and drop bath.

2. Bleach with 15% liquid hypochlorite by weight (15 to 20% chlorine by volume). Run cold, then run 20 min. at 160° F. Keep on alkaline side. Drop and give hot rinse.

3. Neutralize with 2% Quoits MR 50 or a sodium-sulphite neutralizer.

A much better white may be achieved by inserting the following step between 2 and 3 above: Run goods in a solution of ½ of 1% (by weight of goods) sulphuric acid and ½ of 1% (by weight of goods) hydrogen peroxide at 120° F. for 20 min.; then overflow box and wash goods thoroughly.

Must Control Variables In DYEING COTTON JERSEY

HIGHLIGHTS: *Water supply, steam production, equipment maintenance, and plant housekeeping are vital factors in dyehouse efficiency—Bleaching may be performed in many ways, but hypochlorite bleach in kier is probably most economical—Dyebox bleaching is common—Dyeing with developed dyes or after-treated direct colors gives good results—Personnel is key to dyehouse success.*

By IRVING TEPLITZ

PRODUCTION IS GAGED by the spinner, weaver, or knitter by machine speed. The dyer has no such rule-of-thumb method of calculating production; only when he gets the shade and it fulfills the standards requested is the lot done. Dyehouse production is often subject to intangible factors which would exasperate the spinner or weaver, yet dyeing is a scientific business. Water is a prime factor in quality and efficiency of dyehouse production. It is easy to obtain an analysis of the water, to have it checked regularly, and to check the operation of a water softener and filter; but variations in hardness content from day to day make for variable dyeing results. Even soft water which has slight variation is not suitable for efficient dyehouse operation. The money saved in avoiding re-dyes and re-handles will pay for the equipment which delivers constantly stable soft water. While chemicals such as the tetraphosphates can be used to advantage to soften water, zeolite-process softeners are cheaper in operation.

A quick and ready supply of steam is important for economical dyeing. Unnecessary time spent in waiting for water to heat to a boil costs money. Hot-water heaters that give rapid delivery of hot water are an aid. Dyehouse economy is in large part measured by boiler plant economy and control: the loss of steam (which is actually loss of fuel and water) through leaks, poorly insulated pipes, absence of steam traps and condensate return, and the like, may be considerable. Boiler water, which is often softened independently of the dyehouse water, can be a source of dye streaks if it is discharged through the steam pipes into heating water. A steam separator installation will help eliminate addition of boiler water and thus stop dilution of the dyebath.

BAD EQUIPMENT. Mechanical imperfections are often a cause of poor-quality work in the dyehouse. Leaky equipment, equipment with rough spots, machines which drip oil and carbon, pipes which give unequal pressures of steam, and the like are all costly. Stainless-steel equipment is very helpful for success. If wooden reels are used, dark colors may bleed into the wood and cause difficulties. Even if the wooden dyebox is stripped of dark dye by the use of hydrosul-

Pastel Dyeing of Cotton Jersey

The dyeing of pastel colors on cotton jersey can be carried out as follows (percentage by weight of goods):

1. Synthetic detergent 1%. Solozone or Bleachite 3%. Raise to boil and run for 30 min. Drop. Hot rinse. Drop.

2. Synthetic detergent 1%. Soda ash 1%. Add dye. Run 10 min. Cold. Raise temperature to boil and keep at 200° F. for 45 min. Add salt as needed. Boil 20 min. Sample color. Cool down goods. Take off.

Causes of Streaky Dyeing

Some causes of streaky dyeing are:

1. Failure to dissolve and strain dyestuff properly.

2. Loading dyebox beyond capacity, so that dyes cannot penetrate the goods adequately.

3. Taking goods off too fast, which means that full penetration of dyestuff into the goods has not taken place.

4. Improper boil-off scour and bottom-bleach.

5. Improper use of salt in exhausting color.

6. Lack of care in cooling down of goods before taking off.

7. Use of dyestuffs that give trouble due to temperature, salt, etc.

8. Permitting goods to stand too long in the wet state before drying.

phite, there is always some small quantity left which will cause dyespots on subsequent lots of light shades. Stainless-steel equipment should be welded; if screws are used in joining machine parts, there is a chance dye will go into the screw holes and be a source of subsequent dye spots.

Quality of the work turned out also depends upon good housekeeping; frequent cleaning of machine parts and of the floor, and dusting all parts of the plant. Efficiency of dyehouse operation often depends upon matters of organization, such as having a sufficient number of dye trucks readily available when the goods are to be taken off the dyeboxes. The use of take-off reels on dyeboxes speeds up the removal of dyed goods and is a thrifty-type installation. If there is a centrifugal extractor in the plant, the presence of a pot-eye and motor-driven loader above the extractor will greatly facilitate the loading and unloading operation of the machine.

BLEACHING METHODS. The cheapest and best method of bleaching cotton jersey is the use of kiers. The box-bleach does not match the kier-bleach white quality except at a much greater cost. The caustic-soda scour which precedes the kier bleach is a 4- to 8-hr. boiling process. The box bleach takes from 3 to 4 hr. including the loading and unloading; and hence removal of cotton waxes, motes, and foreign matter does not compare to the kier scour.

The continuous-bleaching method recently developed and promoted is cheaper in operation than the kier process only if there is a great volume of work to be processed. If a ton or so of cotton goods is to be bleached each day, kiers are the most economical method of bleaching. The pressureless kier is used; and there is a considerable saving in chemicals, labor, and steam over the use of the dyebox method.

The entire continuous-bleach operation takes about 2 hr. as compared to 15 hr. in the kier method. In kier bleaching, the bleaching liquids are passed through stationary cotton jersey; in the dyebox method, cotton jersey is passed through stationary bleaching waters; while, in continuous bleaching, the cotton jersey is passed from machine to machine containing the necessary liquids.

There are several bleaching formulas, the most common of which involve use either of peroxide or of chlorine. The hydrogen-peroxide bleach is excellent but is higher in cost than the sodium-hypochlorite process. Hypochlorites can be purchased in carboys containing 15 to 20% chlorine by volume. If a considerable amount of bleaching is done, liquid hypochlorite can be manufactured in the dyehouse. Chlorinated lime (calcium hypochlorite) is dissolved in water, and the clear liquid is taken off and used; the addition of soda ash results in sodium hypochlorite.

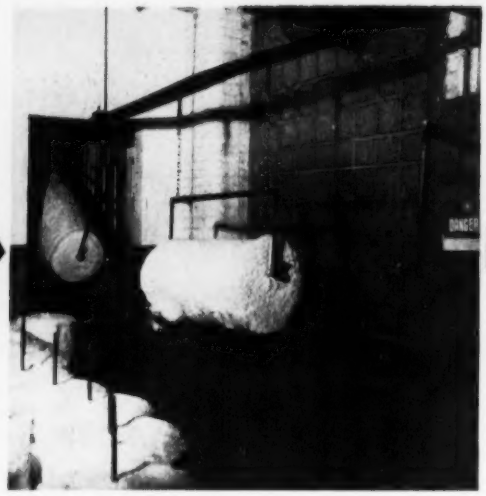
SCOURING LOSS. The loss of weight in cotton cloth due to scouring amounts to 4 to 8%, representing removal of the waxes, cottonseed or motes, and foreign matter. The kier scour is conducted with a synthetic detergent and 1 to 4% caustic soda on the weight of the goods. The scum is removed after the scour, and the goods are rinsed. The goods are then bleached with a solution of 3% hydrogen peroxide and 3% sodium silicate on the weight of the goods. The sodium silicate is used to stabilize the hydrogen peroxide.

In the dyebox method, the cotton jersey is first scoured with soda ash and synthetic detergent; and, after the bath is dropped, the goods are bleached. They are first wet out with lukewarm water and then 6% solicate of soda and 3% soda ash (by weight of goods) is added with a few minutes allowed for circulation. Next, 9% by weight of hydrogen peroxide (100% volume) is added and allowed to circulate for 10 min. The bath is then taken to 190° to 200° F. within a half hour, and the cloth run until the desired white is obtained. Afterward, the cloth should be washed with hot water. Peroxide bleaching takes longer than the hypochlorite dyebox method.

As hypochlorite does not affect the cottonseed or motes, in the dyebox bleach it is customary to add a chemical for that specific purpose. Sodium peroxide (DuPont's Solozone) may be

(Continued on page 184)

1 *LAP IS PLACED ON CONVEYOR after being checked for correct weight. Picker tender doffs pickers in the opposite direction.*



2 *FROM PICKER ROOM to card room the lap passes through a doorway cut in the wall and is lifted up to clear the cards in the next room.*

LAP-HANDLING SYSTEM

Pays For Itself in a Year

HIGHLIGHTS: *System at Avondale Mill eliminates much manual work—Maintenance is almost nothing—Reduction in torn laps and aisle traffic—Automatic unloading unit planned.*

By P. M. THOMAS
Associate Editor, TEXTILE WORLD

THE ALEXANDER CITY, Ala., plant of Avondale Mills has been operating a "bug-free" picker-lap handling system for about a year. Practically the only maintenance required by the system is a weekly cleaning with compressed air and an occasional refilling of a bottle oiler that lubricates the moving parts.

Advantages pointed out for the system include fewer torn laps, much less traffic in and out of the picker room and in the card lap alleys, and a reduction of labor amounting to at least one full-time card tender on each shift. Where six card tenders were used, five now do the job—and do it more easily than six did before.

Disadvantages are scarce. The only ones reported were the initial cost and the necessity for picker and card tenders to get used to the system. Actual figures on the cost of the system are not available, but it paid for itself in less than a year. Picker and card tenders "kicked up dust" about the new-fangled method, but in less than a week they began to speak well of it. Now they appreciate the fact that there is much less lifting and carrying involved.

CONVEYOR PARTS. The conveyor consists of an overhead Richards-Wilcox Zig-Zag rail, lap-carrier chains and hooks, and a ¾-hp motor. The chains and lap hooks were made by Avondale; the clips that hold the chains to the rail came with the rail.

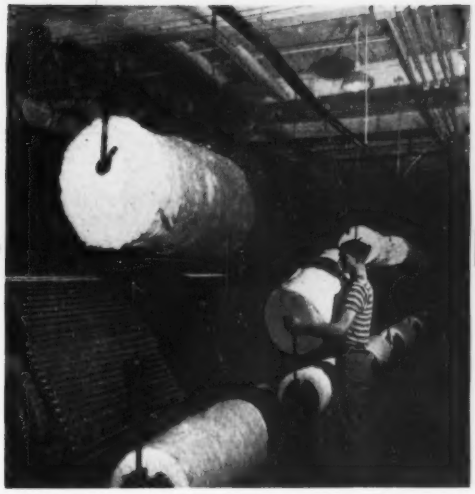
The conveyor is 1,350 ft. long, holds 160 laps, and travels 18 ft. per min. The speed can be slowed or stepped up to coordinate the lap supply with the needs of the cards.

The mill is equipped with ten pickers and 201 cards. Cards run three shifts; pickers run two. When the conveyor is filled, the picker tender stands the laps on the floor. On the third shift, it is necessary for a man to go to the picker room, take laps off the floor, and place them on the conveyor.

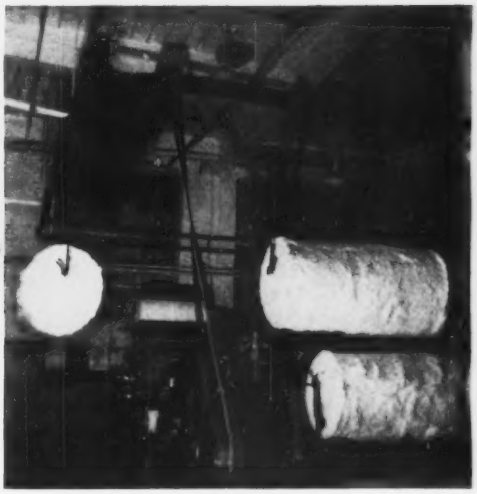
At present, cards have been slowed down, and the 18-ft.-per-min. travel of the conveyor is not needed. The result is that many laps make a complete circuit of the cards. However, Avondale has not reduced the speed of the conveyor because it is a matter of little importance. If laps remain on the track for so long that they may get dirty, the conveyor is stopped until the card tenders use all the laps on it.

The mill runs four different mixes of cotton. Laps are marked on one end with crayon, and card tenders remove the laps they need.

AUTOMATIC UNLOADING. Plans are under way to install means for mechanically selecting laps and automatically unloading them on the cards. When these plans are put into effect, it will be necessary to install another con-



3 *CARD TENDER SELECTS the lap he needs by reference to a crayon mark on the end of the lap and takes it from the conveyor.*



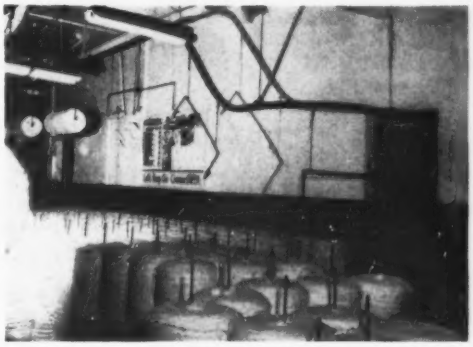
4 *AT HALFWAY MARK, carrier, traveling to the right, leaves the first line of cards, makes a turn, and travels over middle line of cards.*

veyor unit similar to the one now in use. The cards are arranged in three lines down the length of the room, and one rail serves a double line of cards that are back-to-back. In order to have mechanical unloading, the rail must pass directly over the lap storage rack on the card. The present unit is operating at its 8,000-lb. capacity and cannot be expanded. Therefore, another unit will be necessary to serve one line of cards.

One mistake was made when the system was installed. The rail that serves the double line of cards was placed over the card alley to make it convenient to both lines of cards. The traveling laps interfered with traffic in the alley, and card tenders did not have enough working space.

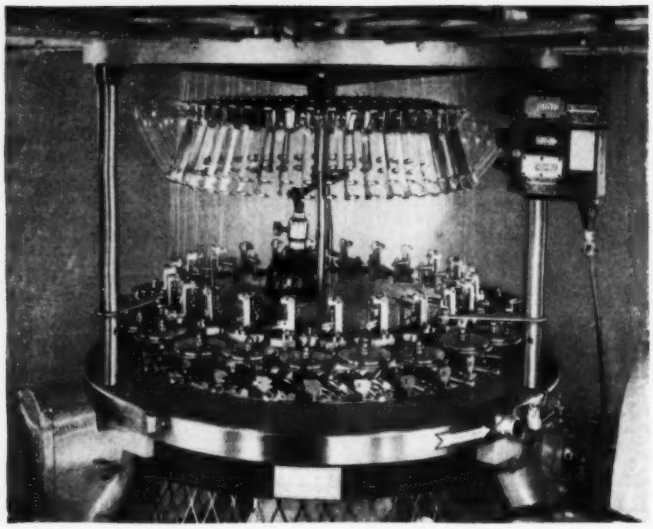
The rail was moved out of the alley so that the line of travel was directly over the laps on one of the lines of cards. The traffic problem was solved, but it is now necessary for laps for one line of cards to be lifted out of the hooks and taken across the alley to the cards.

When the other unit is installed and automatic unloading is provided, this condition will be corrected.



5 *BACK TO PICKER ROOM, the lap is lifted again by the rail to clear the traffic doorway, left, between the card room and picker room.*

Operations BEFORE (Card tender with 33 cards)	Operations NOW (Card tender with 40 cards)
1. Walk to picker room. 2. Pick up lap from floor. 3. Turn, with lap in arms. 4. Place lap on truck. 5. Repeat 2, 3, and 4 five times. 6. Push truck to card-lap alley. 7. Lift lap off truck. 8. Turn, with lap in arms. 9. Place lap in storage rack on card. 10. Push truck to next card. 11. Repeat 7, 8, and 9 five times. 12. Push truck out of card alley. 13. Repeat all of these operations until 33 cards were lapped up, which required: Six trips to picker room, an average of about 650 ft. per round trip (a total of 3,900 ft.) Lifting a 50-lb. lap 66 times (a total of 3,300 lb.) Turning half around 66 times weighted with 50 lb. Carrying 3,300 lb. a distance of at least 1½ yd.	1. Lift one end of lap (about 25 lb.) 2. Slide lap pin out of carrier hooks and drop it onto storage rack. 3. Walk to next card. 4. Repeat 1, 2, and 3 for 39 cards. Total lifting: 1,000 lb. Total carrying: none. Total walking: the distance of 40 cards.



SUPREME circular latch-needle machine of the sinker-top type knits fancy designs and patterns on jersey cloth.

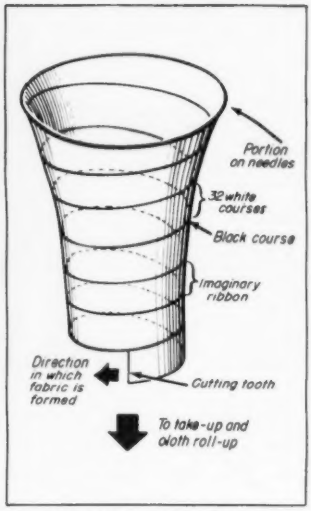


FIG. 1. RIBBON OF FABRIC is knitted continuously as cylinder revolves. One black course gives spiral effect.

PATTERN WHEELS Adaptable In Circular-Knit Designing

By ABRAHAM ABRAMS and LESTER MISHCON
Supreme Knitting Machine Co., Inc., Brooklyn, N. Y.

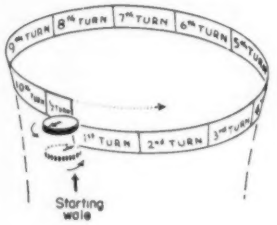


FIG. 2. A 96-CUT PATTERN WHEEL running on a 1,008-needle cylinder makes 10½ turns before it again encounters the starting needle.

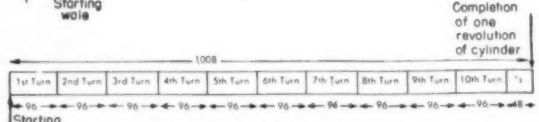


FIG. 3. A SINGLE COURSE cut out and laid flat looks like this.

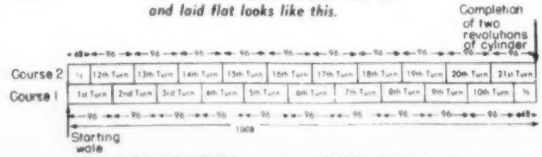


FIG. 4. TWO COURSES cut out and laid flat look like this.

HIGHLIGHTS: *Variable - raising cam exercises individual control over every needle—Pattern area made up of all the widths appearing in pattern wheel—Rise and fall of pattern area forms a staggered effect, depending on order of pattern widths—Simple steps listed for calculating the pattern widths in any combination of cylinder and wheels.*

MULTIPLE FEED, latch-needle sinker-top type circular knitting machines knit cloth in the form of a continuous tube, the length of which is governed by the amount of yarn supplied and the width of which is governed by such factors as the diameter of the cylinder, the number of needles, the size of the needle hooks, the size of the yarn, the amount of tension put on the cloth, etc.

Theoretically, as the cylinder revolves the machine knits a continuous "ribbon" of fabric as many courses high as there are feeds on the machine and joins the edges of the ribbon together

at each revolution, resulting in the continuous cloth tube.

To visualize the fabric construction, imagine a machine with 32 jersey feeds, 31 of which are filled with white yarn and one with black. The result will be a black spiral or helix running down the length of the cloth tube. If the tube is cut along that one black course and then cut upwards along a wall until the next black course, the result will be as shown in Fig. 1. The direction in which the "cutting tooth" points is the direction in which the fabric is moving or being formed.

The pattern wheel on a Supreme knitting machine may be likened in its operation to a printing wheel printing its design in ink on a course of cloth. Whatever impressions or patterns are in the pattern wheel are transferred to the cloth. This analogy explains the simple layout of the pattern areas.

If, in the case of a multiple-feed machine, many pattern wheels are operated, starting from the same needle or wale, the result will be a pattern printed on a "ribbon" of cloth. However, instead of actually being a printing wheel and printing with ink on the surface of the cloth, the knitting machine pattern wheel and its slots and jacks actuate the needles by their butts and cause the stitch variation which forms the design. The designs made with knitting machine pattern wheels, therefore, are not on the surface of the cloth alone, but are through the cloth.

1,008-NEEDLE MACHINE. Take the case of a Supreme knitting machine 24 in. in diameter with 1,008 needles, equipped with only two pattern-wheel feeds. To conform with general practice in two-color work, one feed will carry a positive 96-cut pattern wheel and the second feed will carry a negative 96-cut pattern wheel. The explanation is simplified by considering only one wheel, the positive wheel, since the negative wheel serves to complete the patterned course determined by the positive wheel. If one marks the starting needle on the cylinder and its corresponding slot on the pattern wheel and lets the cylinder revolve once, the pattern wheel will make 10½ turns before it again encounters the starting needle. That is, it will make 10 full turns of 96 cuts, plus 48 cuts remainder, in order to equal one full turn of the 1,008-needle cylinder.

Taking the one course that was just made, and numbering the turns of the pattern wheel as they made their impression on the cloth, one finds the course to look like Fig. 2. Now take that one course that was just made and cut it out and lay it flat; it looks like Fig. 3.

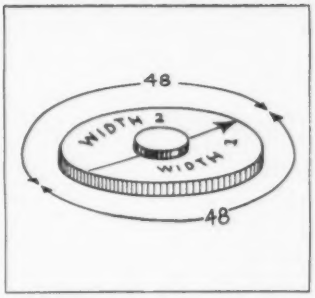


FIG. 5. THE 48-SLOTS in each "width" of the pattern wheel give a common workable "unit" between the courses.

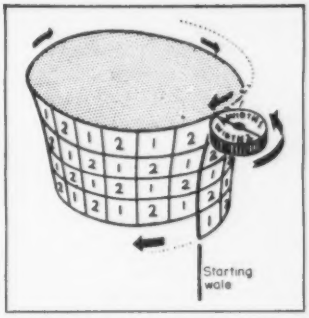


FIG. 6. WIDTHS look like this when four courses are knitted.

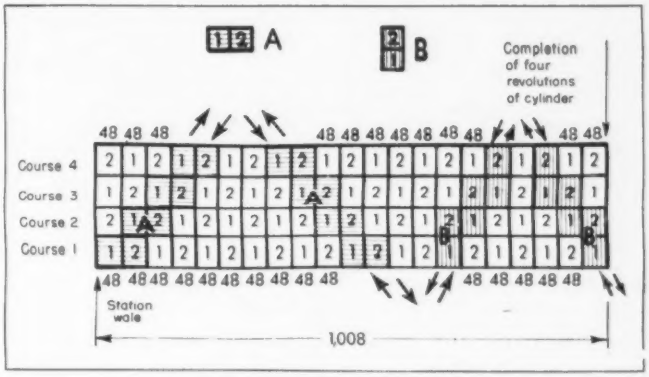


FIG. 7. FOUR COURSES laid out flat look like this.

If the machine makes two complete revolutions of the cylinder, and then the two courses are cut up along the starting wale and laid flat for examination, the result will be as shown in Fig. 4.

It will be noted that since the pattern wheel was unable to make 11 complete turns in the first course, but could make only 10½, it completed its 11th turn in the beginning of the second course. The area into which a pattern could be drawn would be one complete revolution of the pattern

Are you taking advantage of manufacturers' contributions to textile knowledge?

LATER THIS YEAR, Supreme Knitting Machine Co. will publish a book "Pattern-wheel Designing for Circular Jersey Knitting Machines," by Abraham Abrams and Lester Mishcon. TEXTILE WORLD has secured pre-publication rights to those chapters of the books on pattern-wheel designing. Publication of these chapters starts in this issue.

Good textile textbooks are few and far between. For this reason TEXTILE WORLD, when asked about sources of textile information, usually recommends: (1) books, for basic data, but not for latest application techniques, (2) textile periodicals, for current-practice information, and (3) manufacturer's publications for learning how to make maximum use of individual machines.

Mill men should spare no effort to study manufacturer's publications. Knitters, as a case in point, might well study these chapters from Supreme's forthcoming book, as well as the book itself after publication. Such publications are the main source of specific operating information on individual makes of machines. Supreme's book, again as a case in point, can help knitters get the most from their pattern-wheel machines. Such information has in the past been very difficult to obtain.

An orchid to Supreme for a fine job!

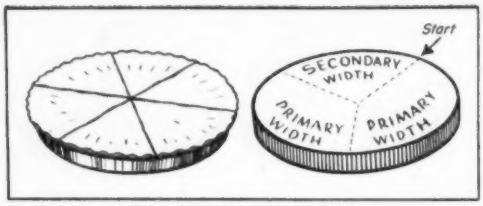


FIG. 8. PATTERN WIDTHS, both primary and secondary, make up the pattern wheel proper, just as wedges in a pie make up the pie

Summary of Simplified Pattern-Area Layout

	Case 1	Case 2	Case 3	Case 4
No. of needles in cylinder	1,020	1,008	640	1,380
No. of cuts in pattern wheel	102	96	100	130
No. of pattern-wheel feeds	24	32	24	32
No. of positive pattern-wheel feeds	12	16	12	16
Primary pattern width	102	48	40	80
Total number of widths in wheel	1	2	3	2
Width of pattern area	102	48	40, 40, 20	80, 50

wheel or 96 needles long and one course high. The position of the pattern area on the second course would be offset 48 needles from the pattern areas in the first course.

The pattern wheel can thus be divided into two widths by taking the first 48 slots in the pattern wheel (the last to operate in the first course) and calling them width 1, and the remaining 48 slots in the pattern wheel (which were the first to operate in the second course) and calling them width 2. The result would be as shown in Fig. 5.

Let the cylinder make four complete revolutions and mark the widths 1 and 2 of the pattern wheel as they make their impression on the cloth. (See Fig. 6). Cut out the four courses and lay them out flat as in Fig. 7. It will be noted that width 2 in the second course falls above width 1 in the first course. The pattern area is still one complete turn of the pattern wheel, or 96 needles long, and one course high as seen in pattern area A in Fig. 7. Note, however, that the pattern area or one complete turn of the pattern wheel is now made up of widths 1 and 2 of 48 needles each.

Since width 2 is directly above width 1, and widths 1 and 2 are connected in a vertical direction, a pattern area results two courses high and 48 needles long, pattern area *B* in Fig. 7. This area contains the same number of needles as the original area and contains both widths 1 and 2. From this example, several general rules may be derived.

PATTERN AREA RULES. The first rule is that the pattern area must always be made up of all the widths that appear in the pattern wheel. These widths must be connected together, for example, in a four-sided, six-sided, or eight-sided figure. In general, since it is easier for patterning, the widths are connected together in a vertical direction.

The next rule is that whatever pattern or portion of a pattern appears in width 1 of one pattern area, that same pattern or portion of a pattern must appear in width 1 of all the pattern areas. This rule holds true for all widths.

Next, assume 32 pattern wheels on a machine, 16 positive and 16 negative. Consider again only the odd-numbered positive wheels, remembering that each positive wheel, when complemented by a negative wheel, represents only one "visible" course and that the negative wheel serves to complete the patterned portion deter-

(*Continued on page 226*)

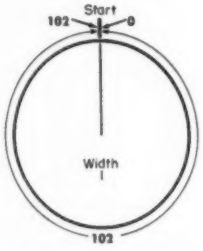


FIG. 9. ONE PRIMARY WIDTH with no secondary width looks like this on the pattern wheel. (Case 1)

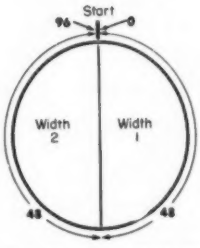


FIG. 10. TWO PRIMARY WIDTHS with no secondary width looks like this on the pattern wheel. (Case 2)

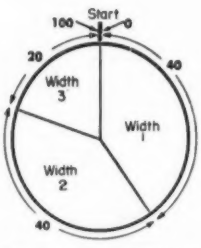


FIG. 11. TWO PRIMARY WIDTHS with one secondary width looks like this on the pattern wheel. (Case 3)

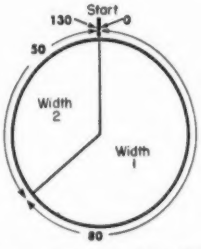


FIG. 12. ONE PRIMARY WIDTH with one secondary width looks like this on the pattern wheel. (Case 4)

How to Calculate Pattern Widths

Step 1

Divide the number of needles in the cylinder by the number of cuts in the pattern wheel. The amount left over after the division is the primary pattern width. In the case of no remainder, the number of cuts in the pattern wheel is the primary pattern width.

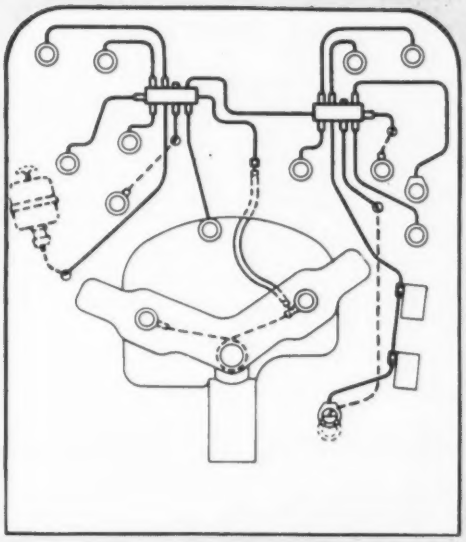
Step 2

Divide the number of cuts in the pattern wheel by the primary pattern width. The quotient is the number of primary widths in one pattern wheel. The remainder, if any, is the secondary pattern width in the pattern wheel. The total number of primary and secondary pattern widths makes up the pattern wheel proper.

Step 3

Draw the pattern wheel schematically. Draw a circle to represent the full pattern wheel. Draw in the primary and secondary widths, number them in clockwise order, and mark the number of slots contained in each width or wedge.

A TEXTILE WORLD REPORT TO MILL MANAGEMENT



CENTRALIZED LUBRICATION

of Textile Machinery

By **WILLIAM A. NEWELL**, *Managing Editor*, and **PRENTICE M. THOMAS**, *Associate Editor*

- **What is centralized lubrication?**
- **What can centralized lubrication do for textile mills?**
- **To what machines has centralized lubrication been applied?**
- **On what machines can centralized lubrication be installed?**
- **On what new machinery is a centralized-lubrication system available?**
- **How do the five available systems work?**
- **What about system failures?**
- **What's coming in centralized lubrication?**

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What is centralized lubrication?

Centralized lubrication of textile machinery refers to lubrication of a large number of bearings or other parts of a machine periodically from one central point. The central point usually consists of a reservoir of lubricant and a pump. The pump is operated periodically either manually or automatically from a driven member of the machine or an outside power source, as an electric motor. Reservoir and pump may be mounted on the machine, located permanently nearby, or be portable and brought to the machine. When the pump is operated, lubricant is pumped under pressure from the reservoir through tubing to metering units either on or near the bearings to be lubricated. The metering units automatically measure out a precise amount of oil or grease and send it to the bearing.

Centralized lubrication of textile machinery, as discussed in this report, should not be confused, as some mill men do, with centralized maintenance. Centralized maintenance refers to placing the responsibility for all maintenance, including such items as painting, cleaning, lighting, etc., as well as lubrication, in a single department. The responsibility for operation of the centralized-lubrication systems in mills may well lie in such centralized-maintenance department, but does not constitute its sole responsibility.

What can centralized lubrication do for textile mills?

Textile-mill men speak well of centralized-lubrication systems installed on their equipment. Mills contacted by TEXTILE WORLD for this report all confirmed advantages claimed by the manufacturers. Specific case histories showing savings and improvements gained will follow. But first, let's look at the advantages found:

LUBRICATION COST CAN BE CUT. Mill engineers stated that under manual-oiling systems, 25 to 50% of the oil is wasted—it goes on the floor, on the material in process, on the machine frame. Sometimes it is soaked up by the wick formed by lint which draws lubricant out of bearings or prevents it from entering. Savings in oil estimated by mills using centralized systems ran to over 50%. In all cases, the mills said that centralized systems reduced oil wastage to zero or to a negligible amount.

Savings in labor were cited by several mills. The amount of labor saving depends largely on the type and number of machines and individual bearings covered by the centralized system, but actual savings have been made by mills.

PRODUCTION CAN BE INCREASED. Centralized-lubrication systems can lubricate bearings without stopping the machinery. Thus an increase in production equal to the time formerly used to stop the machine for oiling is possible. This amount can be considerable if the number of bearings covered by the system is large. Most systems at least include those bearings requiring lubrication daily or several times daily. Even when the machine must still be stopped for oiling other points, there is quite a saving in time in oiling those bearings covered by the centralized system. On a spinning frame, for instance, top rolls and spindles must be oiled in addition to the head-end bearings. But if head-end bearings are centrally lubricated, over-all lubricating time is reduced considerably. This reduction can be magnified by making use of equipment which requires no oiling—such as ball-bearing front rolls and spindles, and nylon-core back rolls on spinning frames.

BETTER OILING IS OBTAINED. In addition to saving oil, centralized-lubrication systems make better use of oil. A precise predetermined amount of lubricant can be fed to each bearing—there is a minimum of danger of applying too much or too little. The human element can be eliminated from oiling, again eliminating over- or under-lubrication as well as the possibility of not oiling some bearings at all. Most mill men who have at one time oiled machinery with a pressure oil can or watched machinery being oiled with such a can know well the dangers involved of over-oiling, under-oiling, or oiling anything but the bearing, including the material in process.

Centralized-lubrication systems, being fully inclosed, virtually eliminate the possibility of lint and fly entering bearings. In addition, lint and fly on the outside of the bearings cannot soak up oil and prevent it from entering the bearing.

An additional advantage gained by centralized systems is that lubricant is usually applied while the bearing is moving, insuring a better distribution of the lubricant and preventing it from merely running through the bearing and dripping out on the low side.

Use of centralized-lubrication systems can also reduce the incidence of fires in the mill.

SPINNING-RING LUBRICATION. Centralized lubrication of spinning rings is in successful operation in several New England woolen and carpet-yarn mills. Some advantages gained are longer traveler life, reduction in waste of lubricant, better quality yarn, cooler-running rings, and increased traveler speeds. An additional benefit enjoyed by spinners, especially women, is relief from the job of greasing rings manually. Down time averaging 20 min. per frame for hand greasing is also eliminated. Centralized ring-lubrication systems can be automatically or manually operated. In some cases, the same lubricant is used on rings as on head-end bearings, and is dispensed by the same system.

These case studies show savings

GEORGIA COTTON MILL

One mill has 150 spinning frames equipped with the Bijur central system of head-end lubrication. No specific figures on savings were available, but it was stated by the mill that oil saving is over 50% of that formerly used. Frame overhauling each six months has revealed no failures of bearings oiled by the central system. The mill has had no tube breakage. Tubes are installed with a slight bend to absorb vibration, and clips holding tubes are tightened well.

A labor saving of 50% was made by reducing the number of oilers per shift from two to one.

Bearings are oiled at the mill by the central system once each shift. The jackshaft bearing is connected with the system.

KO-NIT TEXTILE CORP., Englewood, N. J.

Ko-Nit has ten Reiner tricot-knitting machines which are centrally lubricated by the Lincoln Centro-matic system. Oil is pumped from a single barrel located about 150 ft. from the machines (to allow for installation of more machines). An automatic controller causes the pump to operate every 2 hr. Oil is pumped through 1-in. main feed line to the system on each of the ten machines. There is a total of 365 ft. of pipe line. Take-off lines to machines are ⅜ in.

The system lubricates 103 points on each machine, 38 of which are moving and require flexible tubing. Forty bearings on each machine are not lubricated by the central system; but these are bearings requiring lubrication not more than once weekly, and can be oiled during shutdown for cleaning or on a weekend.

Savings in oiling cost and improvements in production which have resulted from the installation are shown in the following table:

BEFORE—MANUAL OILING:

- Machine stopped 10 min. every 4hr. for oiling (more often than manufacturer recommends).
- Three types of lubricants used: (1) a heavy cup grease, (2) an oil similar to SAE 70, and (3) a spindle oil.
- Cost of oiling manually: $15.00 daily.
- Cam-follower replacement: 2 to 3 per machine per week.

NOW—CENTRALIZED OILING:

- Machine oiled once each 2 hr. while machine is in operation.
- Bearings oiled under 3,000 lb. pressure.
- Production increased about 22%.
- Power cost reduced 20%.
- Machine oiled with one grade of oil, a spindle oil.
- Cam-follower replacement: 1 to 2 per machine each 18 mo., due to flat sides.

Cost of installing the system was $650 per machine for material, plus $100 per machine for labor installation. Total cost of installation for 10 machines was $7,500 ($7.28 per bearing.) The mill management acknowledges that the system paid for itself.

The system was so installed that the oil shutoff valve was located over the main power switch for the machines. Thus, the machines cannot be operated without starting the oiling system as well.

The first trial system was installed at Ko-Nit over two years ago. Average length of time of operation of the system on the ten machines is 18 months.

The pumping system at Ko-Nit operates automatically every 2 hr. An alarm will sound if the oil barrel becomes empty, if a line breaks, or if a line plugs. Line plugging is detected by a rapid buildup of pressure prior to the normal time required to build the system up to peak pressure. The system is cycled over 4½ min.; during this time pressure builds up to 3,000 lb. If a plugged line causes pressure to build up to 3,000 lb. before 4½ min., an alarm sounds.

MT. VERNON-WOODBURY MILLS Inc., Tallassee, Ala.

The Tallassee mill has 524 spinning frames and twisters equipped with the Bijur system of head-end lubrication. The mill is now installing the system on looms.

Considerable savings in time and labor and a corresponding increase in production have resulted, as shown by the following figures on 419 machines.

Oiling 419 Spinning Frames and Twisters:
(Head-end bearings only—oiled twice weekly)
Manual lubrication (frame stopped):
80.58 man-hr. per week
Centralized lubrication (frame running):
2.05 man-hr. per week
Saving in time:
78.53 man-hr. per week
Saving in down time for oiling:
78.53 hr. per week

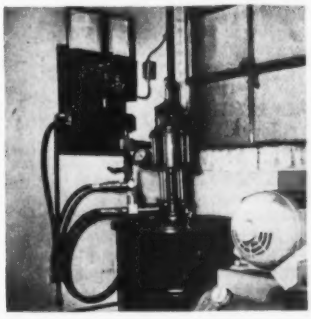
The above figures for both manual and centralized lubrication do not in either case include oiling rolls, spindles, etc., but are comparative figures on head-end bearing oiling only.

The figures for both manual and centralized lubrication also do not include time required for filling the centralized oil-reservoir (once each 42 days) nor for filling oil cups under the manual system (at least once every 42 days).

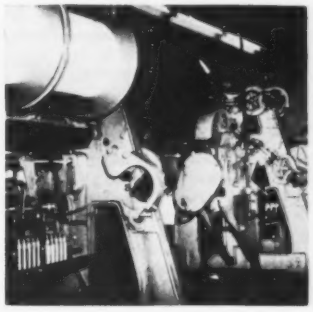
Tallassee mill executives state flatly that the centralized system has saved 33 to 50% of the oil formerly used. It is further stated that there have been few failures of centrally lubricated bearings.

Frames at the Tallassee mill do not have the jack shaft connected to the centralized system. This shaft requires oiling

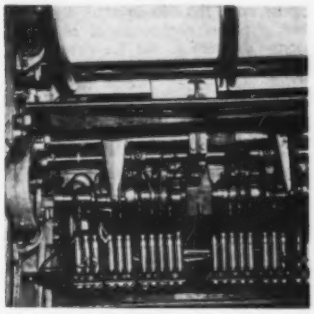
KO-NIT LUBRICATES TRICOT MACHINES BY CENTRALIZED SYSTEM



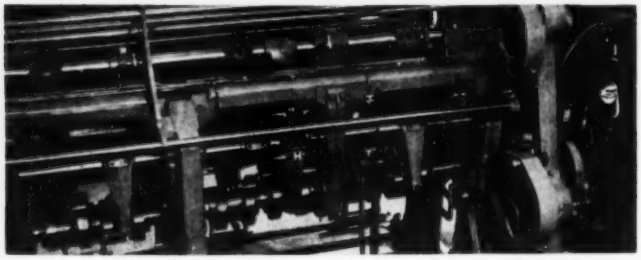
From Remotely Controlled Pump . . . *ELECTRICALLY CONTROLLED PUMP operates every 2 hr., over 4½ min. cycle.*



Oil Passes Through Feed Lines . . . *MAIN FEED LINES (arrow) are 1-in. diameter. Takeoff lines to injectors are 3/8 in.*



To Oil Injectors On Tricot Machines *103 POINTS on each machine are lubricated under 3,000 lb. pressure.*



58 BEARINGS are lubricated at one time by the Alemite centralized system on this Reiner tricot machine at Fenimore Fabrics, Inc.

every 12 hr., while others require oiling only every 48 hr. A bottle oiler is used on the jack-shaft bearing.

Tallassee has experienced some broken oil-carrying tubes on the 411 frames and twisters. This breakage is being reduced by using saran tubes to feed bearings where there is much vibration, and by putting a slight bend or a loop in the tube feeding to such bearings. This broken-tube replacement constitutes the total maintenance of the system on the 411 frames and twisters.

Tallassee, during the first two years of operation, spot checked the felt filters used in the Bijur system to prevent impurities from entering tubes and metering units. At the end of the two years, all filters were cleaned, but it was found that the cleaning was unnecessary. No further checking is planned except every three years.

THREE GEORGIA MILLS

One Georgia mill reported at a recent meeting of the Textile Operating Executives of Georgia that a "one-shot" centralized Alemite system is installed on the calender section of its pickers. Bearings are lubricated once a week, with a saving of about 75% of the time formerly required for oiling during three shifts daily for five days.

There will be an excessive amount of oil at some points where bearings may be slightly worn, the mill reported; otherwise there is proper distribution of oil. The system has been in use for about three years, and while the mill formerly overhauled the calender section every three months, it has not yet overhauled since installing the Alemite system. During this time, the mill has had not more than six or seven breakdowns, only two of which could be attributed to failure of the oiling system. The centralized system has saved in the neighborhood of $800 per year in labor alone.

Another Georgia mill, at the same meeting, reported as follows:

"We do not use this system of lubrication. We tried it on one picker but found that it was necessary to recut and refit the tubing every time the picker was overhauled, otherwise the tubing became bent and cut off the lubricant."

A third Georgia mill reported that its experience with "one-shot" lubrication on pickers was not sufficient to give a detailed discussion. The mill is equipping pickers with the Bijur system of central oiling on all bearings except the following:

1. Beater bearings.
2. Fan bearings.
3. Top and bottom evener cones.
4. Side shaft bearings.
5. Friction-pulley gears and bearings.
6. Pulleys on two-speed blending reserve.

The top part of the blending reserve has Nolu oilless bearings and does not require lubrication.

MAINE COTTON MILL

One Maine mill has 21 frames equipped with the Bijur central system of head-end oiling, and 20 frames without the central system. The mill superintendent reports that it takes a fixer about six times longer to oil manually the frames not equipped than it takes to oil the frames equipped with the central system. Another advantage mentioned by the mill is elimination of the human element. The mill management feels pretty confident that all parts are receiving the proper amount of lubrication. A saving in oil is also believed to have resulted, although no definite figures were available.

Pepperell reported a few occasions where plug-ups have occurred. The mill now stresses that oil and containers from which oil is poured must be kept clean to keep plugging at a minimum.

ARTLOOM CORP., Philadelphia, Pa.

An Alemite Midget Lubrometer centralized-lubrication system was installed in ten Crompton & Knowles rug looms in operation at the Artloom Corp. The system serves 56 bearings per loom.

Under former lubrication methods, machine down time, with resultant lost production, was said to be one hour per day, representing a "cost to lubricate" of $44.80 per day. (Time to lubricate, 1 hr. labor at $1.20 per hr., plus 1 hr. lost production, $40.00).

After installation of the Alemite centralized system, machine down time was entirely eliminated. Labor required was reduced to 10 min. once a week. Thus, savings per day amounted to $44.60.

The savings were accomplished with an equipment investment of $960, and an installation cost of $1,680 ($4.70 per bearing). Thus, only 60 days were required to amortize the cost of the new system.

In addition to the sizable savings shown, the mill feels that the looms are receiving positive lubrication in the correct amount. Hazards to materials and to personnel have been eliminated, and it is no longer necessary to remove work in process from the looms to get at certain hard-to-reach bearings.

WAMSUTTA MILLS, New Bedford, Mass.

A new Model J Whitin comber at Wamsutta Mills is equipped with a Bijur central system of lubrication. While no figures were available on savings in cost and increased production, mill officials were pleased with the system. Advantages stressed were savings in oiling time because no removal of machine guards was necessary to oil hard-to-reach bearings, and the prevention of lint getting into the inclosed system and into bearings.

FENIMORE FABRICS, INC., Cobleskill, N. Y.

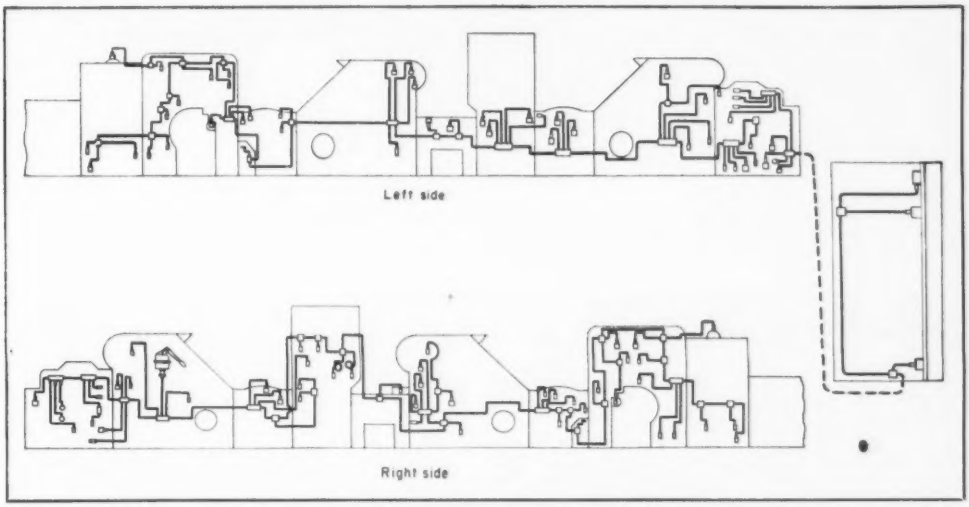
Fenimore Fabrics, Inc., has installed an Alemite Midget Lubrometer centralized system on warp-knitting machines. The system covers 58 bearings on each machine, three tubes to which are flexible. Bearings are lubricated every other day by a hand-operated pump on a 3-lb. container. Prior to the installation, it was necessary to stop the machine for 2 hr. for lubrication, and care was required in handling the gun. It was necessary to hold strands of yarn apart to reach fitting.

According to A. N. Doubleday, of Fenimore Fabrics, Inc., the centralized system will be installed on all machines. Mr. Doubleday stated, "The application saves a great deal of down time, not only for oiling but for cleaning and repairs. We will probably be able to eliminate an oiler when more of the machines are equipped with the system."

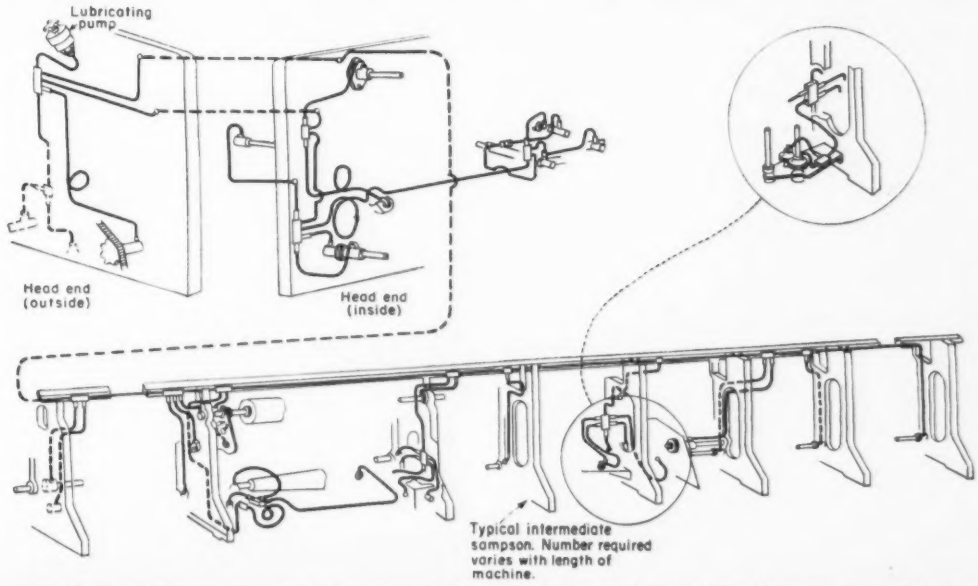
JACKSON MILLS, Wellford, S. C.

Jackson Mills has installed a Lincoln Centro-Matic automatic system on its Cocker slashers. Injectors or lubricant-dispensing valves are supplied with lubricant through a single supply line from an electric-motor-operated pump with 30-lb. lubricant capacity. The company reports a substantial saving in operator's time, an increase in production, as machines do not have to be shut down for lubrication; and greater machine efficiency due to a minimum "friction factor" resulting from correct lubrication.

To what machines has centralized lubrication been applied?



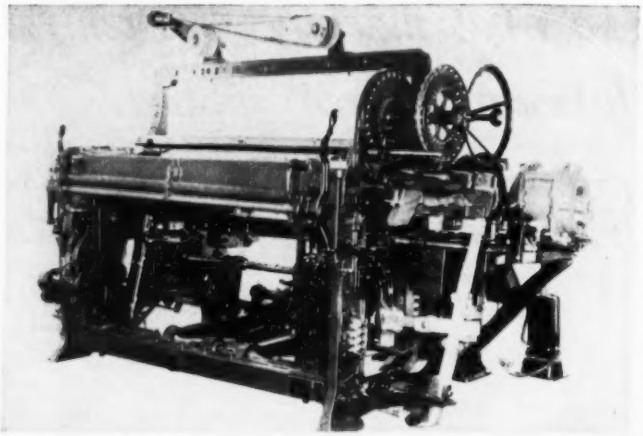
SACO-LOWELL PICKER installed at a North Carolina mill of Pacific Mills was equipped as shown above by a Bijur central-lubrication system. 100 points are lubricated by one shot from the pump mounted on the last screen section.


Lubricating pump
Head end (outside)
Head end (inside)
Typical intermediate sampson. Number required varies with length of machine.

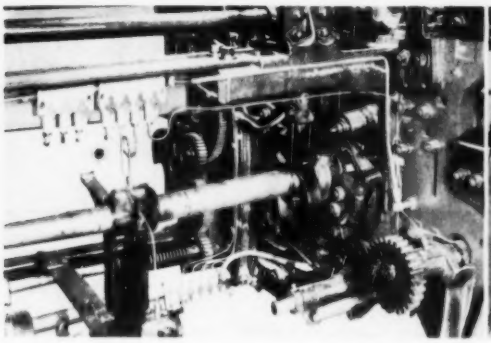
SACO-LOWELL ROVING FRAMES equipped at the factory with the Bijur system have this layout of tubing. The system covers the head-end bearings and other bearings along the machine; a total of 41.

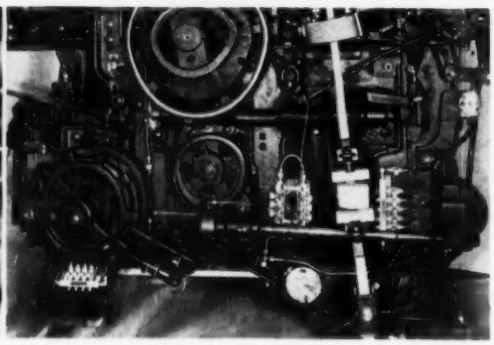
To what machines has centralized lubrication been applied?

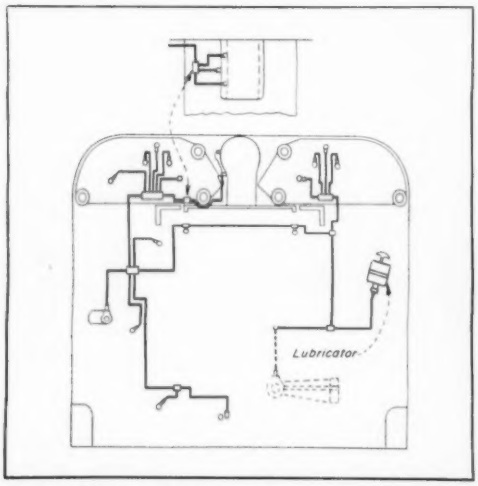
(Continued from previous page)



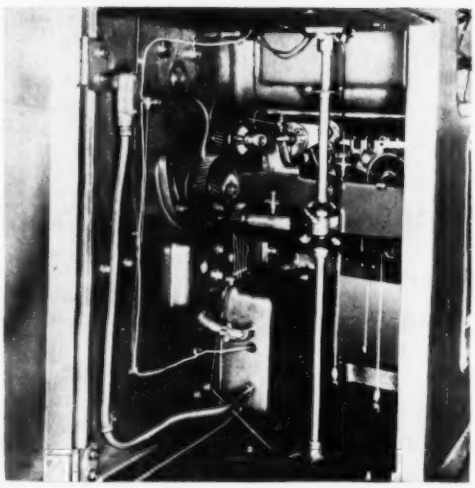
A DRAPER LOOM is lubricated by the Lincoln system with this system of lines. 48 points are oiled. (See photos at right and below.)



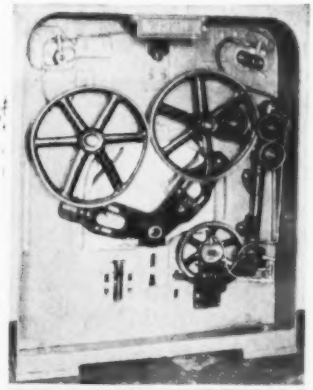


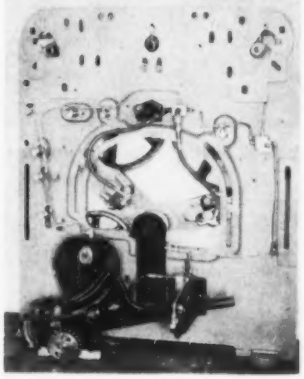


WHITIN MODEL J COMBER has 71 points on head end, drawing rolls, coiler, and other points which are oiled from the Bijur-system pump at the head end.

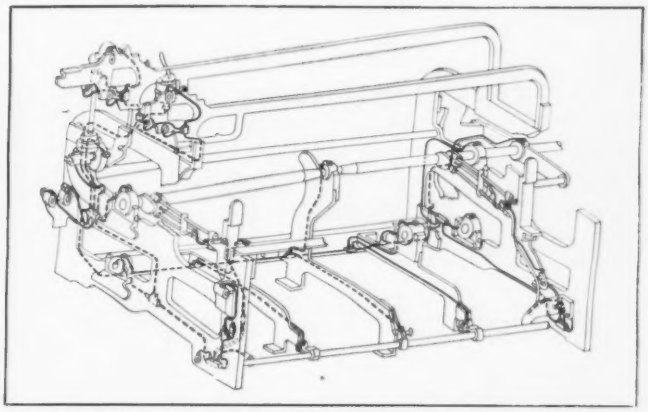


WHITIN TWISTER HEAD-END bearings are lubricated simultaneously by this arrangement of tubes and metering units supplied by Bijur Lubricating Corp.

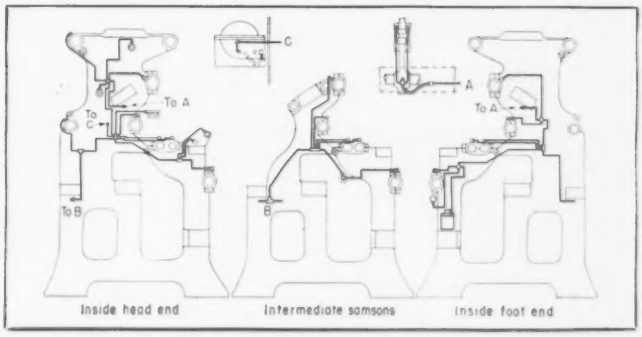




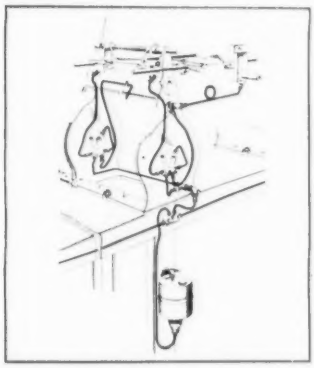
THE HEAD END of a Whitin spinning frame equipped with an Alemite can be oiled by this centralized-lubrication system. Its 17 bearings are lubricated simultaneously.



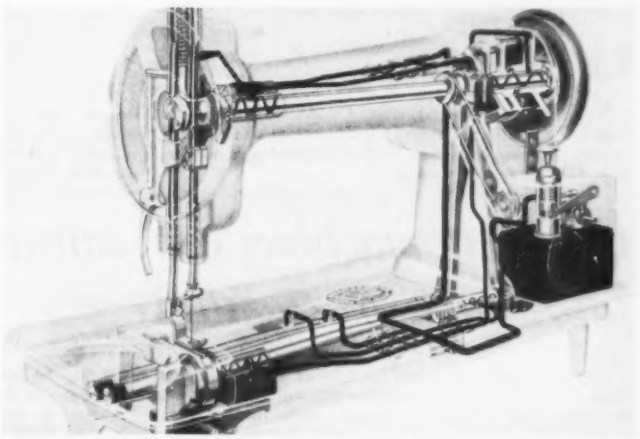
W-3 LOOMS by Crompton & Knowles can be equipped with this Bijur "one-shot" system that will supply oil to 32 bearings.



A WHITIN MODEL B TRICOT KNITTER can be equipped with the Bijur system as shown above. Metering units feed oil to 34 points.



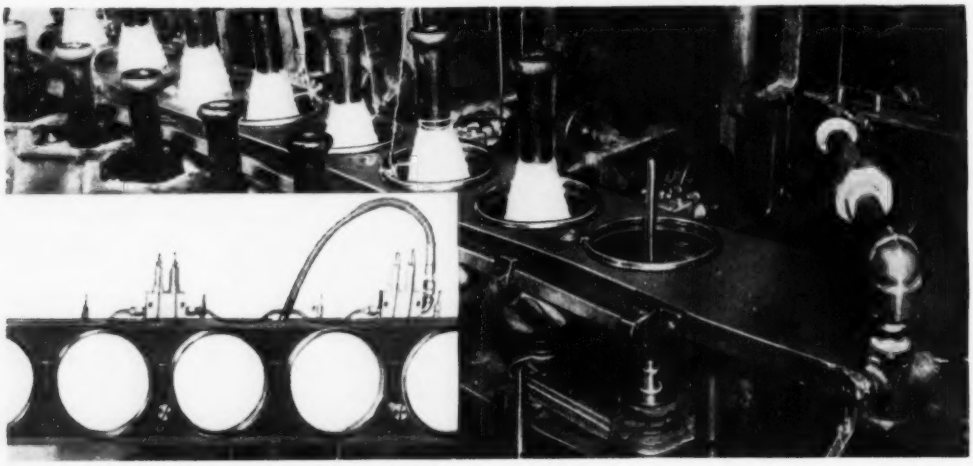
UNIVERSAL'S NO. 45 WINDER for heavy work can be equipped with the Bijur system as shown above. The moving traverse slide is oiled by a tail tube which drips into a trough leading to the track where the slide reciprocates.



THE LOCKSTITCH MACHINE made by Willcox & Gibbs has this Bijur automatic system built in. At every 60,000 revolutions of the main shaft, the automatic metering unit sends oil to metering units at the bearings.

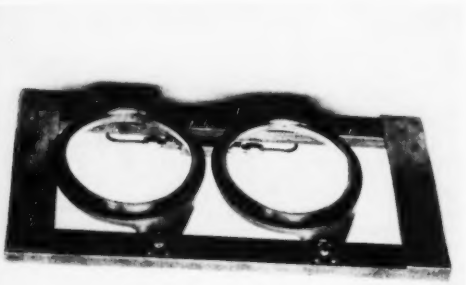
To what machines has centralized lubrication been applied? (continued)

SPINNING-RING CENTRALIZED-LUBRICATION SYSTEMS



A LINCOLN SYSTEM installed on a frame at Alexander Smith Carpet Co., Yonkers, N. Y., decreases traveler friction and traveler wear. A double injector unit is mounted on the back of the rail between every two rings.

AN ALEMITE SYSTEM has been installed on a woolen-spinning frame at M. T. Stevens Co., Lawrence, Mass. A solidified oil is fed to the inside surface of the ring through a resistance unit which prevents squirting. One drop, or 0.005 cu. in. of oil is applied up to twice per shift, depending on yarn in process.



THE NEW BIJUR SYSTEM, making its debut in this article, is mounted under the rail. Two types are available—one feeds oil directly to the ring, the other (shown above) feeds oil to a wick which carries oil through the ring to the traveler. The latter opens up unexplored fields of lubricating small-diameter rings.

On what machines can centralized lubrication be installed?

Centralized-lubrication can be installed on virtually any textile machine, new or in place. The only limitation is economic. For instance, it would usually involve more re-machining and other work to install a centralized system on an old comber in place in a mill than the system could repay for many years. Potential savings of an installation can be calculated, however, by estimating savings in labor, savings in oil, increase in production due to elimination of down time, etc. Cost of centralized-lubricating systems, including materials and labor, varies from about $1.50 to $7.50 per bearing, depending on the system used and amount of re-machining and other labor required. Lubricating tubes and/or metering units can usually be fitted into old oil holes where they exist.

On what new machinery is a centralized-lubrication system available?

A mill ordering any new machine from any manufacturer could probably request that any desired make of centralized - lubrication system be installed on the machine. Such an installation would of course, involve an extra cost; and final arrangements would have to be made with the manufacturer.

Some machinery manufacturers have adopted the Bijur system as standard or optional equipment on new machines. A list of these machines and manufacturers follows:

Combers:
Whitin Machine Works, standard equipment
Saco-Lowell Shops, optional equipment

Roving Frames:
Whitin Machine Works, standard equipment
H&B American Machine Co., standard equipment
Saco-Lowell Shops, optional equipment (head end and full length)

Spinning Frames:
Whitin Machine Works—standard equipment on cotton and woolen frames
H&B American Machine Co., standard equipment (cotton frames)
Saco-Lowell Shops, optional equipment (cotton frames)

Twisters:
Whitin Machine Works, standard equipment
H&B American Machine Co., standard equipment
Saco-Lowell Shops, optional equipment
Collins & Aikman Co., standard equipment (woolen frames)
Davis & Furber Machine Co., standard equipment

Winders:
Universal Winding Co., standard on No. 45 winder

Knitting Machines:
Whitin Machine Works, standard equipment on Model C tricot machine
Robert Reiner, Inc., standard equipment on tricot machine

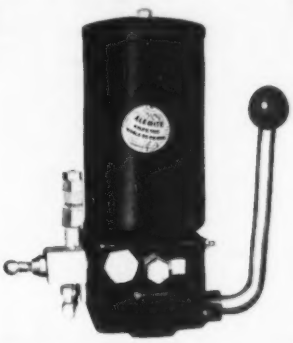
Looms:
Crompton & Knowles Loom Works, standard equipment on W-3 and F-2 looms

Sewing Machines:
Willcox & Gibbs Sewing Machine Co., standard equipment on lock stitch and chainstitch machines

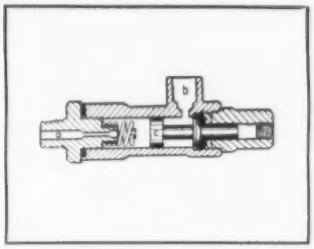
How the five available systems work

ALEMITE

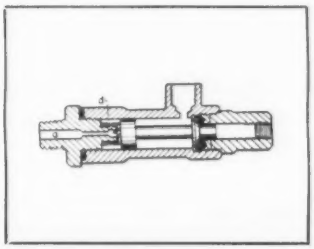
The Alemite Div. of Stewart Warner Corp., 1826 Diversey Pkwy., Chicago, Ill., recommends its Lubrometer centralized-lubrication system for textile machinery. Most bearings will take the "midget"-size valves, four sizes of which can deliver from 0.005 to 0.020 cu. in. of oil or grease.



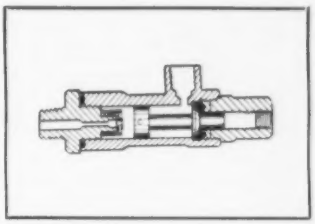
1. PUMP shown is hand operated, is mounted on machine. System may be operated also by several types of portable air-operated barrel pumps, lever grease guns, or other machine-mounted hand pumps.



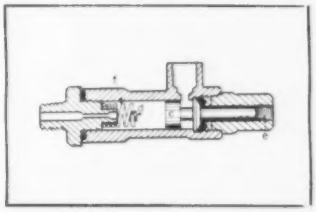
2. DISCHARGING a measured amount of oil through port a is accomplished when lubricant under pressure is introduced through port by driving piston c to left.



3. PISTON HAS STOPPED, charge of lubricant has been delivered. Valve d has closed port a sealing outlet to bearing.



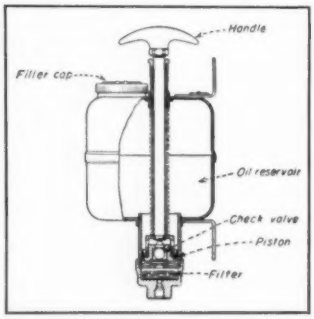
4. RELOADING TAKES PLACE when increased pressure forces lubricant past piston c, driving it to right because pressure area on outlet side is greater than on inlet side.



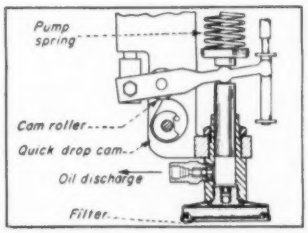
5. VALVE IS RELOADED when indicator stem on piston c reaches adjustment screw e. Valve d is held closed by lubricant pressure until pressure in feed line is removed. Valve d is then opened by spring f.

BIJUR

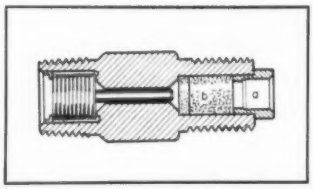
Bijur Lubricating Corp., 43-01 22nd St., Long Island City 1, N. Y., has simple and perhaps inexpensive system. This system has been adopted as standard by some textile-machinery manufacturers. System is for oil lubrication only.



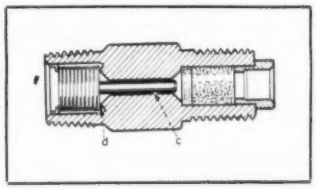
1. HAND PUMP is supplied with several styles of handles to suit installation. Reservoir holds pint of oil. Raising and releasing handles starts flow of oil. If reservoir is empty, handle springs back.



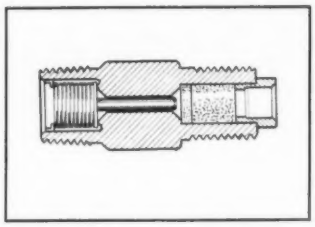
2. AUTOMATIC METERING UNIT operates from a shaft on machine. Cam roller rotates and lifts rocker and piston. Oil is drawn in through filter and check valve and trapped in cylinder. As cam turns, piston is allowed to descend and send oil into distributing system through valve.



3. OIL IS FED TO METER UNIT from pump through opening a. Felt filter b is second filter through which oil passes between pump and bearing, is protection against plugging of impurities reaching bearing.



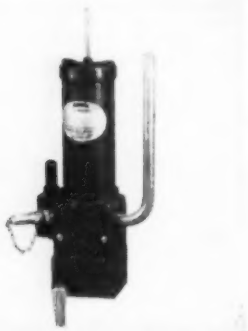
4. OIL UNDER PRESSURE passes around core of metering orifice c, opens and passes through check valve d, and goes into bearing. Five sizes of meter units are available, giving five different rates of flow of oil to bearing.



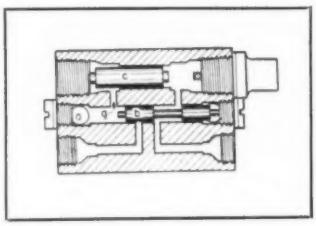
5. PRESSURE RELEASED, the check valve closes preventing further flow of oil to bearing. Oil below check valve may or may not flow into bearing, but oil is always at the bearing.

FARVAL

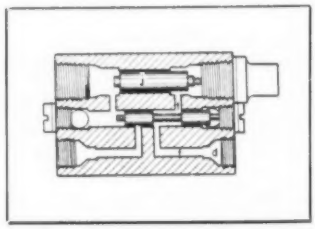
For textile machinery, The Farval Corp., 3255 E. 80th St., Cleveland, Ohio, recommends its Dualine, Jr., system. The valve has only two moving parts, no springs or check valves, and will distribute oil or grease.



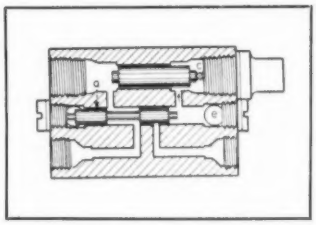
1. PRESSURE APPLIED through the machine-mounted hand pump sends lubricant alternately to two supply lines to which metering valves are connected. Automatic pumps are also available.



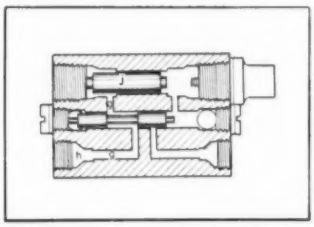
2. LUBRICANT ENTERING left inlet a forces piston b to right, allowing lubricant to flow through passage g to cylinder c.



3. PISTON j is forced to right by lubricant, sending measured amount of lubricant from cylinder through passage f and outlet d to bearing.



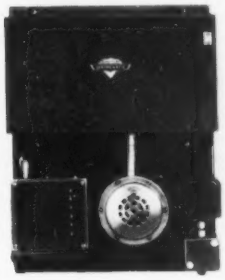
4. NEXT STROKE of the pump handle forces lubricant through upper inlet e, forcing piston a to legt and allowing lubricant to flow through passage f to cylinder c.



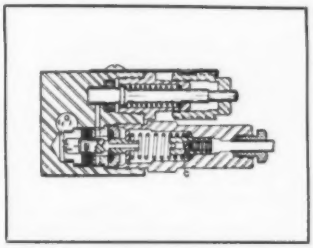
5. PISTON c is forced to left, forcing measured amount of lubricant left by previous stroke from lower part of cylinder through passage g to outlet h to bearing.

LINCOLN

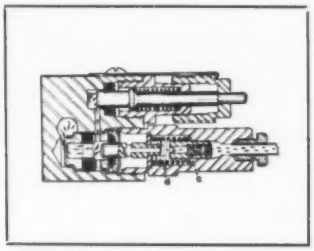
The Centro-Matic centralized-lubrication system for oil or grease offered by Lincoln Engineering Co., St. Louis, Mo., makes use of injector units usually mounted on the machine frame and connected to bearings by steel or copper tubing. No meter unit at the bearing is necessary.



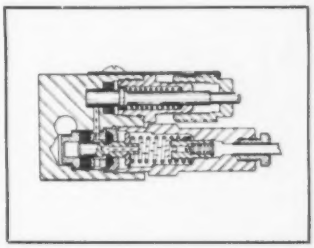
1. CONTROL PANELS are available for electric cycling of drum pumps connected to the injectors. Hand-operated units are also available.



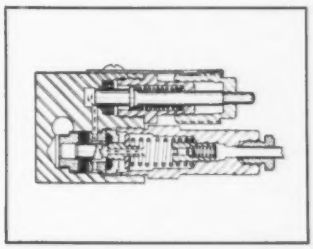
2. LUBRICANT ENTERS inlet a under pressure, moves valve stem b to right, opening check valve c.



3. BEARING IS LUBRICATED as lubricant is discharged from discharge chamber d past check valve c. Incoming lubricant fills measuring chamber e.



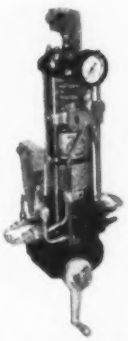
4. VALVE IS VENTED automatically, valve stem moves down.



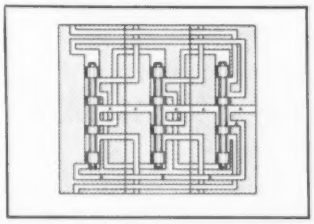
5. PISTON in measuring chamber displaces lubricant from measuring chamber to discharge chamber in readiness for next cycle.

TRABON

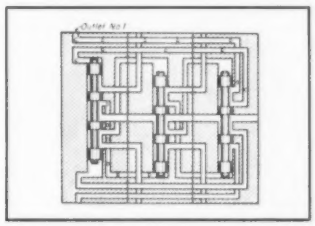
The Type M centralized-lubrication system of Trabon Engineering Corp., 1814 East 40th St., Cleveland 3, Ohio, is recommended for use on textile machinery. The Trabon system is continuous, has no springs or check valves, and feeds oil or grease.



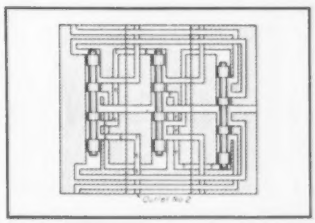
1. MECHANICALLY DRIVEN PUMP, Trabon Series 3400, is recommended for use on textile machinery. Pump is driven from some rotating member of the machine. A 3,500-lb. pressure can be developed, and an alarm system can be connected to warn of pluggage.



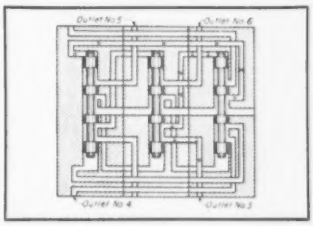
2. LUBRICANT ENTERS center channel A, moves vertically downward along all three pistons. Lubricant passing along right-hand piston finds passage through channel b, pressing against lower end of lower piston.



3. LOWER PISTON is moved upward, forcing measured amount of lubricant through passage c to bearing connected to outlet No. 1. It then passes along left-hand piston through passage d to lower end of center piston.



4. CENTER PISTON is pressed upward, discharging measured amount of lubricant through passage e to bearing connected to outlet No. 2. Lubricant then passes through passage f to lower end of upper piston.



5. UPPER PISTON is forced upward, discharging lubricant through passage g to bearing connected with outlet No. 3. Cycle continues until lubricant is forced in sequence through outlets 4, 5, and 6.

What about system failures?

TWO POINTS THAT MILL MEN WORRY ABOUT

Two questions seem to be foremost in the minds of most mill men considering a centralized-lubrication installation.

WHAT ABOUT LINE BREAKAGE?

Oil lines in centralized-lubricating systems can and do break—but infrequently. Breakage, according to using mills and system manufacturers, is usually the result of improper installation.

Breakage is most likely to occur when there is much vibration, as on looms, especially in lines connecting two parts vibrating in different frequency and/or amplitude.

Best answer to the breakage problem is to install the system properly making frequent use of the clips provided to attach tubes to machine frames. It is especially important to clip the tube to the frame as near the metering unit as possible. Where much vibration is apparent, a loop in the tube before the metering unit or between meter unit and bearing will absorb the movement. Still another solution is to use flexible tubes of rubber or saran.

Manufacturers, recognizing the particular vibration problems in textile machinery, are developing new joints that will spread strains over a greater tube area, thus providing another safeguard against tube breakage.

Should a tube break, of course, it can be quickly detected. Some systems provide alarms which sound when breaks cause a severe drop in pressure. Even when no such alarm is provided, oil or grease dripping from a machine is readily apparent to workers.

WHAT ABOUT PLUGGING?

Plugging, like most any other mechanical failure, can happen. But cases of it reported to TEXTILE WORLD in its survey of centralized-lubrication-system users were few and far between.

Many factors in the design and construction of centralized-lubrication systems are at work to prevent plugging. While designs vary, various devices as filters, close clearances between parts, design of moving parts, etc., all are aimed at prevention of possible plugging of lines by impurities.

Should a pluggage occur, the fact that the object causing the plugging is near a moving, vibrating bearing plus the fact that it is under pressure ranging from 60 to 3,500 lb. from the oil reservoir, make it unlikely that the pluggage can remain. Some systems provide for application of even greater pressure for dislodging impurities should any cause a pluggage. Some systems also provide an alarm to warn of plugging in lines. Some metering units have indicators by which proper operation of the system can be periodically checked.

Best answer to possible plugging is to use clean oil, directly from the barrel, if possible, or if transfer is necessary, to use clean containers.

An additional safeguard is provided by testing when the system is installed. If the system operates properly on installation, and clean oil is used after that, plugging should be no problem.

What's coming in centralized lubrication?

The day when no human hands will perform the lubrication of textile machines is not far away. The Lincoln installation at Ko-Nit Textile Corp., previously described, and systems for lubrication at spinning-frame rings are probably some of the most advanced in the industry. Nearest counterpart is in Columbia Rope Co., Auburn, N. Y. In these installations, an automatically controlled pump is installed remotely from the machines. Long lines and sub-lines carry lubricant from oil drum to machinery. The lubrication cycle is automatically controlled by an electric timing device. These installations also foretell the future automatic lubrication of entire rooms of spinning, weaving, and other equipment from a single point.

Next step by centralized-system manufacturers will be the lubrication of more points on individual machines than covered by present systems. For instance, present centralized-lubrication systems for spinning frames cover only the head end. Systems now in development will simultaneously take care of top rolls, spindles, and all other points. The development of such equipment should speed acceptance by mills as the centralized-lubrication system will then eliminate or reduce a higher cost percentage than present systems do on some machinery.

***NEXT TO BE ACCEPTED** by textile mills are automatic cyclic centralized-lubrication systems. One type is this Bijur cyclic pump on a Whitin Model E woolen-spinning frame, driven from a rotating shaft on the frame. The pump can be geared to deliver oil each time the driving shaft completes a given number of revolutions.*

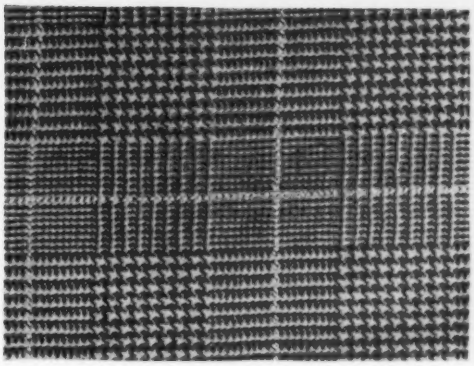


Fig. 1. THIS IS BASIC DESIGN which is analyzed.

Fig. 2. GLEN PLAID weave is 4-harness twill.

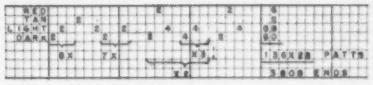


Fig. 3. DRESSING pattern is shown.

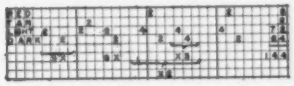


Fig. 4. FILLING pattern for Fig. 1.

Keep Color Effects Sharp On GLEN PLAIDS

HIGHLIGHTS: *Infinite variety of color combinations can be made on basically simple weave—Glen plaids are popular for both women's and men's wear—Over-fulling is to be avoided.*

By GEORGE HART

THE GLEN URQUHART PLAID is one of the most popular types of pattern on the market today in both women's wear and men's wear. Based either on the basket weave or on the 4-harness twill, this type plaid presents opportunity for a myriad of beautiful color combinations ranging from soft, somber shades, suitable for the most conservative banker, to sharp, clear contrasts that will delight the eye. Many thousands of yards of Glen plaid cloths find their way into women's suits every year in an endless variety of shade combinations, in varied sizes of patterns, and in numerous fabric weights.

The basic dressing pattern for a Glen plaid is 2 ends dark, 2 ends light (for the hair-line effect) repeated as many times as necessary to obtain the desired width of the hair-line portion of the plaid, followed by dressing 4 ends dark, 4 ends light, which may also be repeated as many times as necessary to give the required width to the bolder portion of the pattern.

The basic filling pattern is 2 picks light, 2 picks dark, repeated as many times as desired, followed by 4 picks light, 4 picks dark, also repeated for desired length.

The 4-dark, 4-light portion of the plaid is generally laid out, warp and filling, to allow that portion of the design to be about as wide as it is long when the cloth is finished. This rule is important. Failure to comply will show, in the larger plaids, a squatty finished pattern that will not be well received by the trade.

START RIGHT. Great caution must be exercised when starting the filling pattern at the loom. It positively must be started on the proper bar of the chain, otherwise the color effect of the 2-dark, 2-light portion, will be fillingwise instead of warpwise (see Fig. 7).

(Continued on page 226)

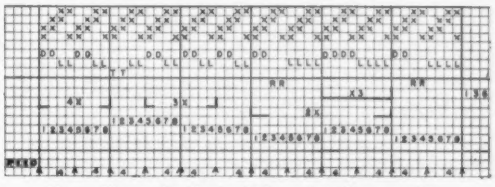
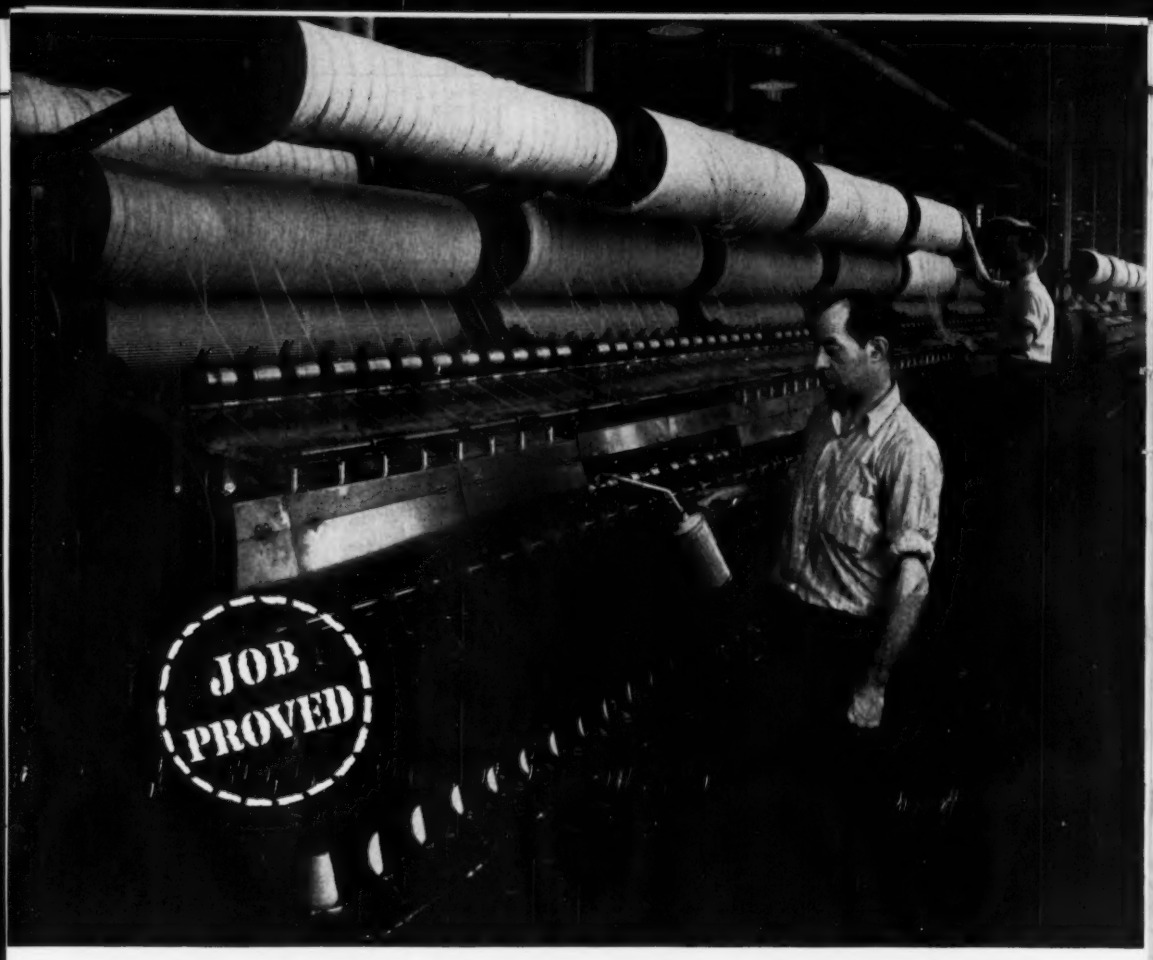


Fig. 5. Weave, drawing-in draft, and reeding are given.

Fig. 6. Hairline effect is started properly, runs warpwise.

Fig. 7. Hairline effect is wrong, if started on wrong bar.



CUTS OIL CONSUMPTION 50%

Suntac and Sunvis Oils Last Longer, Lubricate Better, Eliminate Endless Clean-ups and Costly Drip

One of the largest manufacturers of papermaker's felts and woolen mechanical goods found lubrication costs high in his spinning department. Oil leaked from drive-shaft bearings and other parts of the spinning frame, ran too rapidly through ring-lubricating wicks. Flooring became slippery, making an endless chore for the clean-up crew. Because of the high standards of cleanliness throughout the rest of the plant, the manufacturer was eager to eliminate this untidy and hazardous condition.

At the suggestion of a Sun engineer, the management switched to two "Job Proved" Products—Suntac for spinning frame bearings, Sunvis for wick lubrication of spindles and spinning rings. A year has passed since then—plenty of time for comparison with the products previously used. Suntac stays in the bearings longer; Sunvis feeds properly through the wicks, and keeps them softer. Drip, with its nuisance, hazards, and expense, has been practically eliminated. Oil consumption has been reduced as much as 50 per cent.

This performance is typical of "Job Proved" Sun Products in all their varied uses. By giving superior results, they help increase profits. For complete information about Sun textile lubricants and processing oils, call or write your nearest Sun Office.

SUN OIL COMPANY - *Philadelphia 3, Pa.*
In Canada: Sun Oil Company, Ltd.
Toronto and Montreal

SUN PETROLEUM PRODUCTS
"JOB PROVED" IN EVERY INDUSTRY

SUNOCO

BLYTHE SHOALS CONFERENCE sponsored by the Greenville Textile Club is always well attended.

TEXTILE CLUB Serves Mill Section

HIGHLIGHTS: *Greenville group sponsors annual conferences in addition to regular meetings—Members advise Parker School on vocational program —Club now 25 years old.*

By LOUI GREET

OTHER TEXTILE CENTERS may find useful the plan of organization and operation of the Greenville Textile Club, which was organized in 1923 at Greenville, S. C. It includes in its membership the overseers of the textile plants in Greenville County.

Mr. Greet, long identified with the Greenville Textile Club and the famous Parker District School, retired March 31.

The organization was first called the Greenville Overseers Club, but its name was changed a few months later when superintendents of plants were accepted as honorary members. It has operated from "boom to bust" and on into boom again and is more vigorous now than ever before. The explanation for its long life seems to be that it has been a service club, rather than a purely social organization. The membership now is over 250, and the average attendance at the monthly meetings is in the neighborhood of 175.

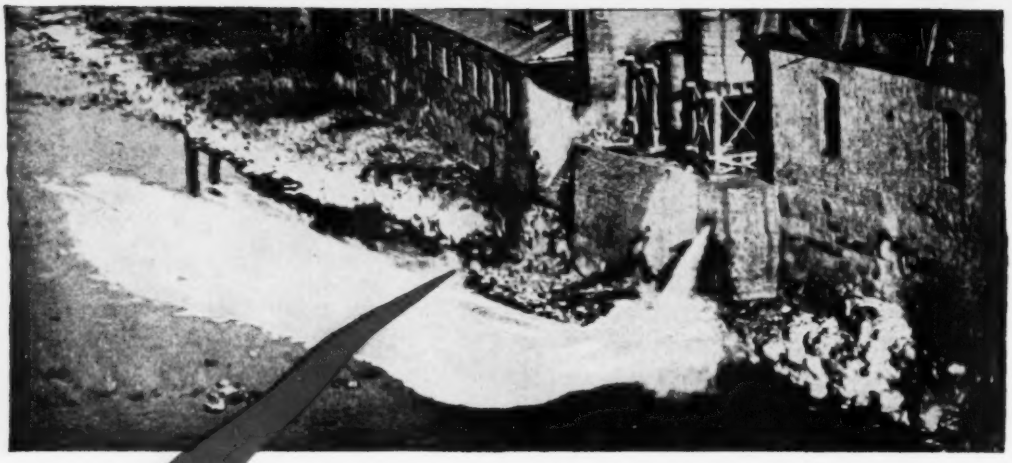
The organizers of the club stated, "The principles for which this club was organized are embodied in the following:

1. The ideal of service as the basis of all worthy enterprise.
2. High ethical standards in dealing with both employer and employee.
3. The application of the ideal of service to employer, employee, and community.
4. The development of fellowship as an opportunity for service.
5. The up-building, dignifying, and advancement of the textile industry.
6. The fostering of education as a means of bringing these things about.
7. The advancement of understanding, good-will, and good fellowship within the textile industry of Greenville County."

Of course, all organizations that purport to be for the good of the community have high-sounding creeds

(Continued on page 190)

ACTIVE in the Greenville Textile Club are (l. to r.) Dr. L. P. Hollis, superintendent of Parker District School; Frank J. Aiken, superintendent of Gerrish-Milliken Mill; R. V. DeVane, assistant superintendent of Duncan Mill; and the author, Loui Greet, former vocational director of the Parker District School.



General Chemical "ALUM"

For Treatment of Industrial Wastes

Treatment of industrial wastes to prevent harmful effects on public waters is becoming increasingly important. Throughout the process industries, scores of concerns have found a solution to their problem in the use of General Chemical Aluminum Sulfate.

Laundries, paper mills, dairies, textile mills, canning plants, oil wells and packing houses across the nation report General Chemical "Alum" useful in purifying wastes; coagulating and settling suspended matter; reducing coloring matter, including many dyes.

Fifty years of working with the water industry on chemical methods of clarifying water has given General Chemical extensive experience in the treatment of sewage and waste waters. This broad knowledge may be of value to you as it has to so many others.

Assistance of the company's technical service specialists is available on request—and without obligation. For help on your industrial waste treatment problems, write or phone the nearest General Chemical office.

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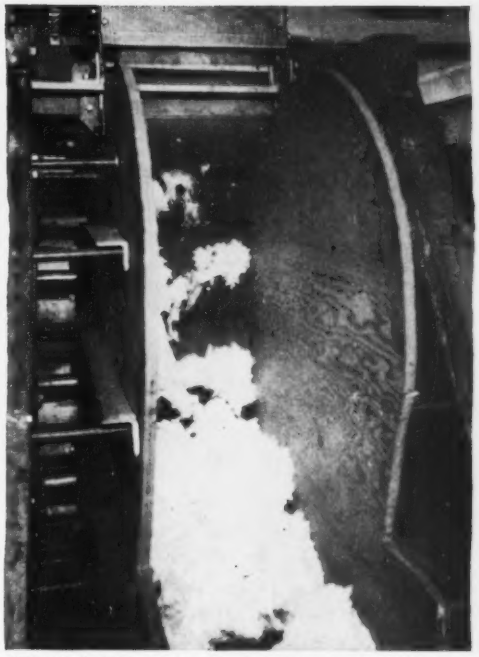
Photos courtesy of Southern Regional Research Laboratory



COTTON OPENER interior shows the fluffing action of revolving saw mandrels upon matted tufts of machine-picked cotton. Such cotton is usually quite trashy.

ACETYLATION of cotton can be accomplished directly in the form of fiber, yarn, or fabric on standard equipment. In this picture a chemist is inserting a package in a commercial dyeing machine.

COTTON RESEARCH
Brings Improved Products

WATER ABSORPTION characteristics of fabrics are tested by determining the time required for a disk of fabric to absorb a measured volume of water from the surface of a moist porous plate.

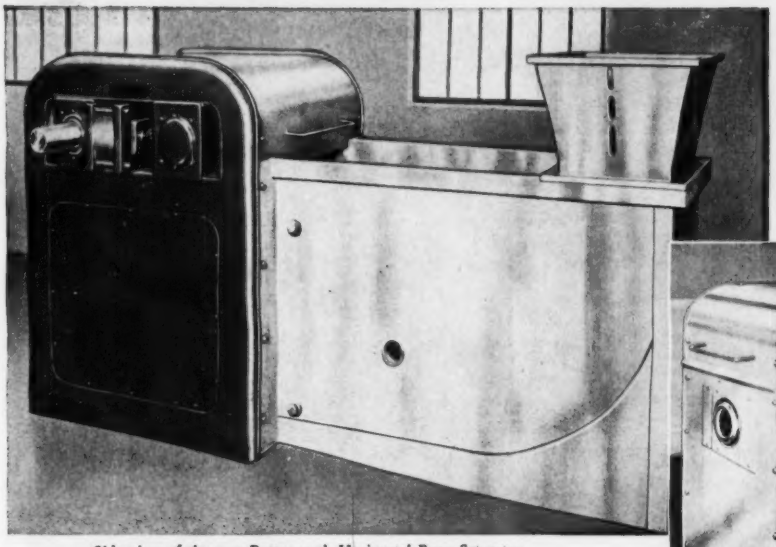
HIGHLIGHTS: *New draft guide improves roving uniformity—Yarn variation reduced 50% in strength and 40% in number—Dept. of Agriculture develops special opener for cleaning machine-picked cotton—Industry takes on commercialization of rot-proofing and weatherproofing—Improved high-speed knitting yarn sought.*

BETTER PROPORTIONMENT OF DRAFTS on the rear and front drafting zones of long-draft roving frames, worked out in conjunction with the development of a new drafting guide, has resulted in improved roving uniformity, according to the annual report of the Dept. of Agriculture on its cotton research activities. As a result of the new drafting improvements, variation in yarn has been reduced by about 50% in strength and 40% in yarn number.

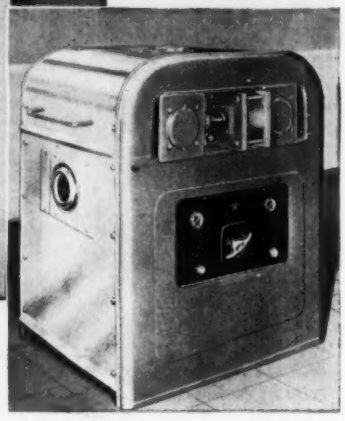
The report, listing the progress made during the 1948 fiscal year in projects undertaken under the provisions of the Research and Marketing Act of 1946, includes cotton research done at the Southern Regional Research Laboratory and elsewhere under government auspices.

A more efficient opener has been set up in New Orleans for the extra cleaning job required for cotton ginned from machine-picked cotton. The new opener opens and fluffs up matted lumps of cotton into small,

(Continued on page 196)



Side view of the new Butterworth Horizontal Rope Saturator. Note streamlined, compact design and stainless steel closures.



Front view of the new Butterworth Rope Squeezer. Frame work, bearings, rolls, air cylinders and control mechanism are interchangeable with Saturator shown at left.

Simplified High-Speed Bleaching

With the new Butterworth Horizontal Rope Saturator and the new Butterworth Rope Squeezer you can achieve higher speeds, better bleaching and better handling of goods during continuous bleaching operations. These new machines are more flexible, more interchangeable than any conventional saturators and squeezers now in use. There's no loss of production time.

Actual production tests have shown savings of 40 per cent in labor costs alone; 25 per cent less floor space used. Production speeds as high as 300 yards per minute can be obtained with this equipment.

Check some of the features and advantages of these new machines: faster operating speeds, streamlined design, closures made of stainless steel; rollers completely enclosed to protect workers and keep dirt out; compact, easy to reach controls, gentler handling of goods, 3-position poteye panels, plus many additional features.

The new Butterworth Horizontal Rope Saturator and the new Butterworth Rope Squeezer are two major steps in standardizing and simplifying continuous bleaching operations. If you want to standardize continuous bleaching operations, if you want to obtain better bleaching results and greater production, then get all the details on these two new machines now. Write or call:

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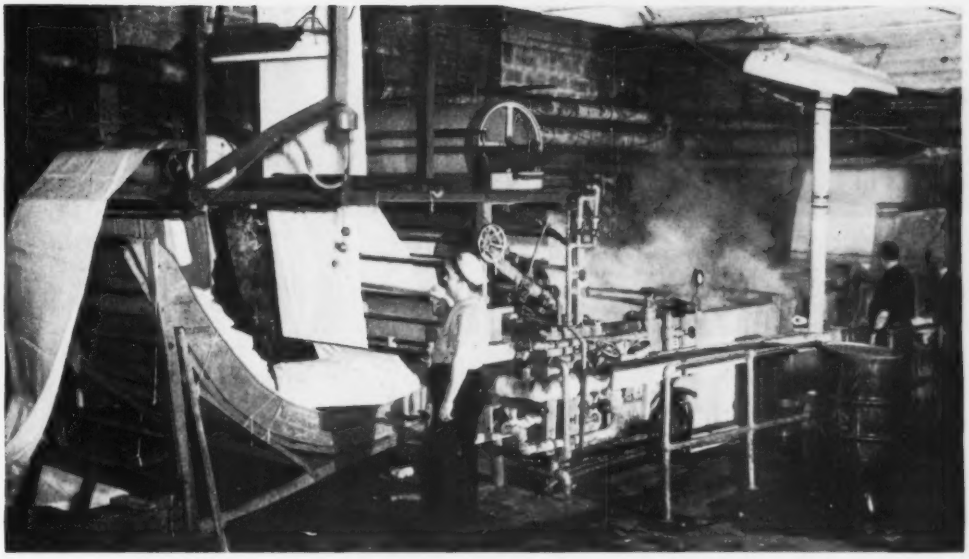

RAW STARCH in goods may react with calcium in water to form complex which is hard to remove.

Control of Metallic Salts Cuts Cost of FINISHING

HIGHLIGHTS: *Impurities can form insoluble soaps which produce defects and reduce effectiveness of other chemicals—Viscose rayon dulled, acetate specked—Fatty precipitates hinder wool scouring—Metallic salts can be cut off at source.*

By T. N. PATRICK

METALLIC RESIDUES of certain types give trouble in textile processing by forming insoluble soaps which act as resists in dyeing and give trouble in finishing generally. Such soaps may also give rise to a bad odor when goods have been stored for some time. Further trouble arising from the residues is development of stains and discolorations in finished goods. Activation by catalysis of bleaching liquors in the presence of local metallic deposits is also well known.

In scouring and finishing processes, insoluble soaps are due, mainly, to water impurities; but they may also be caused by residues of mordants, dyes, etc. rinsed from colored goods in wet processing, as shown in the accompanying table.

The main classes of metallic salts found in water supplies are the carbonates, sulphates, and chlorides of calcium and magnesium. All those given in the table of troublesome salts on page 200 unite with the fatty acid of a soap to give metallic soaps which are insoluble in water. By doing so, they reduce the washing power of soap liquors.

The principal classes of soap used in textile finishing are the stearates, palmitates, and oleats of sodium. These are soluble in water and liberate free alkali in the form of caustic soda to give a slight alkaline reaction. For example, the following equation gives an indication of what happens in a soap solution:

$2\ C_{17}\ H_{35}\ COONa + H_2O = (C_{17}\ H_{35}\ COONa)\ (C_{17}\ H_{35}COOH) + NaOH.$

In other terms: sodium stearate + water = acid sodium stearate + caustic soda. It should be pointed out that only a very small amount of alkali is ever found free in the soap solution.

In the presence of metallic radicals, loss of cleansing power is brought

(Continued on page 198)

SOURCES OF METALLIC IMPURITIES

1. Water supplies—calcium, magnesium, iron.
2. Pipe lines—iron and lead.
3. Condensate from girders, roofs, etc.,—iron and lead.
4. Residues from dyed and printed goods—aluminum, zinc, titanium.
5. Finishing agents—chromium, zinc, calcium, titanium, etc.

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the Indispensable Film Former

Do you need *better* film properties? Try the *new* Methocel, *powdered*. The new powdered form now makes it easy to handle Methocel in process. Methocel can now be dry-mixed with other ingredients or added as a water solution.

For the textile manufacturer, Methocel's film forming properties offer superior advantages. The tough, flexible film formed by Methocel makes it particularly valuable, used as the sole sizing agent or as a size modifier. Methocel reduces abrasion, minimizes friction and reduces loom stoppage.

Methocel offers other outstanding properties, highly useful in the production of textiles. Since it is an excellent thickener, Methocel is valuable in the formulation of printing pastes.

Send for your *free* experimental sample of the *new* Methocel, *powdered*. Just fill out the coupon below.

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DOW

CHEMICALS INDISPENSABLE TO INDUSTRY AND AGRICULTURE

THE AUTHOR, speaking in Atlanta, emphasizes timestudy potentials.

ARE YOU GETTING FULL VALUE from the timestudies that are being made in your mill? If you are not now making timestudies, do you want facts about what use they can be to you? In either case, you will find here five benefits of timestudies, some of which you may not now be getting or have not considered.

1 **The obvious use of timestudy is to analyze productive time, but nonproductive time, such as that caused by management errors, should be studied also.**

2 **Timestudy is the foundation for wage incentives; but its records can also be used to speed up teaching new employees.**

3 **Performance of supervisors, as well as of employees, can be determined as an important by-product of timestudy. An unrecognized good supervisor may thus be uncovered.**

4 **Much standard data can be applied to indirect labor to prevent further closing of wage differentials between productive and indirect labor.**

5 **Timestudy can analyze overhead so that it can be fairly allocated. The same overhead factor should not, of course, be applied to all classes of work.**

Five TIMESTUDY Uses Seen As Important

HIGHLIGHTS: *Analysis of time is basic—Studies can be used to aid training of employees—Supervisor rating is possible—Timestudy is applicable to indirect labor—Proper overhead allocation facilitated.*

By PHIL CARROLL

MANAGEMENT'S USE OF TIMESTUDY can be approached from the rear by restating the subject as, "Now that we got it, what do we do with it?" The answer is, "Lots of things—put it to work." Timestudy is a "tool." Somebody has to use it and keep it in repair. That somebody is management. Timestudy is a measuring stick. It has to be used by people. It cannot do anything by itself. It is not a substitute for management.

There are a great many uses that an alert and hardworking management can make of timestudy. There are five that seem of great importance.

First, is the obvious analysis of time. Mills pay for time. Such payments often make up the bulk of all costs. The cost of the time is what many persons spend too much energy watching. Instead, they should look at what they get for the time.

Waiting and unnecessary work result in major losses in time. These are management errors. They result from incomplete planning, tooling, specifications, and instructions.. Waiting is often due to shortage of material and information. In the haste to reduce waiting, mistakes often occur to cause extra work.

Timestudy will bring out the amount of time lost under existing conditions. That amount of time can be spent more profitably in removing the causes. And, as waiting and extra work are reduced, it becomes apparent that equipment can turn out more production.

USE YOUR EQUIPMENT. Improvement in equipment utilization is one of the most profitable uses of timestudy. Waiting time is considerably more expensive than the obvious cost in wages. Waiting cuts down some of the productivity possible from machines. Timestudy can show where mills fail to utilize productive capacity. Do not bury any so-called "unavoidable delays" in production standards. These delays can be reduced by diligent action.

In bigger amounts, many managements waste output of men and machines in extra work. The causes might be classified into (a) defective workmanship, (b) incorrect engineering, (c) poor tools, and (d) careless purchasing. They result in operations performed without producing any salable output. But often the actual losses involved are invisible because the time elements involved are buried in temporary standards or unmeasured day-work allowances. A correct analysis would exclude such time items from direct labor. Such work is not productive, but indirect, labor. It is an overhead cost. If reported, it may be possible to recover part of that time for salable production.

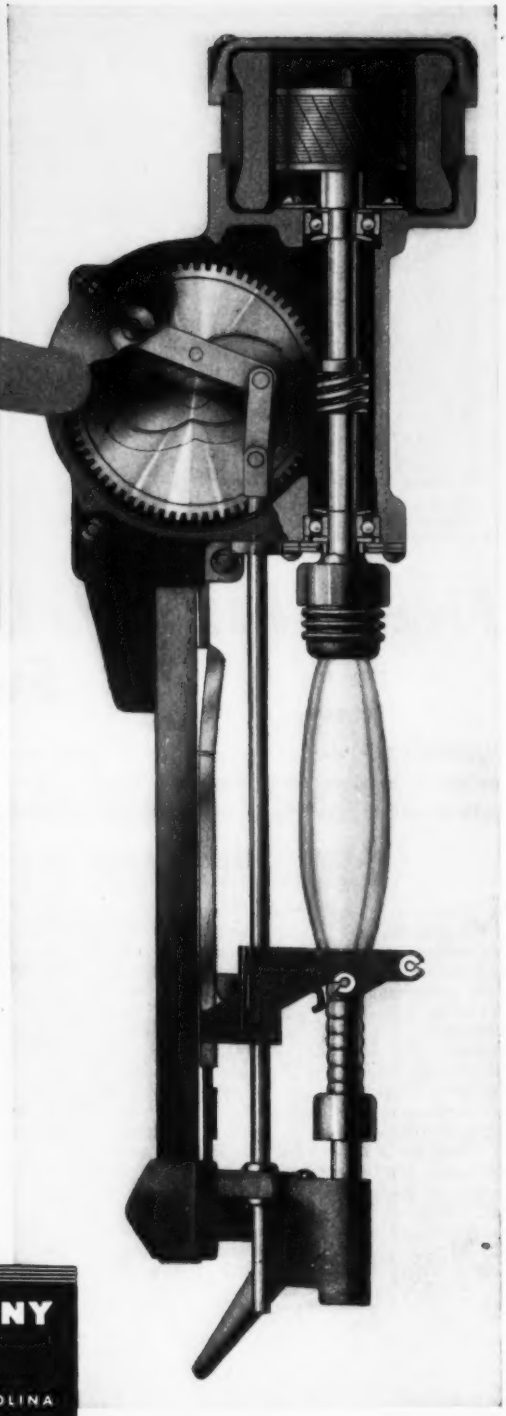
WAGE INCENTIVES. Second is the recognition of the use of timestudy as the foundation for wage incentives. Do not expect incentives to relieve management of work. The fact is that a good incentive installation and

(Continued on page 210)

This article is digested from an address before the recent Timestudy and Methods Conference in Atlanta, Ga. Mr. Carroll is the treasurer of the Society for the Advancement of Management. He is the author of "Timestudy for Cost Control" and "Timestudy Fundamentals for Foremen," both published by McGraw-Hill Publishing Co., 330 W. 42nd St., New York, N. Y.

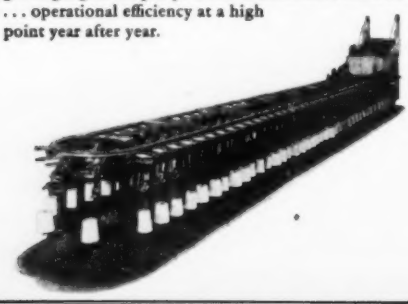
ABBOTT Automatic QUILLERS

Only 4 Moving Parts
DRIVE THE SPINDLE AND TAKE THE TRAVERSE MOTION OUT TO TRAVERSE GUIDE

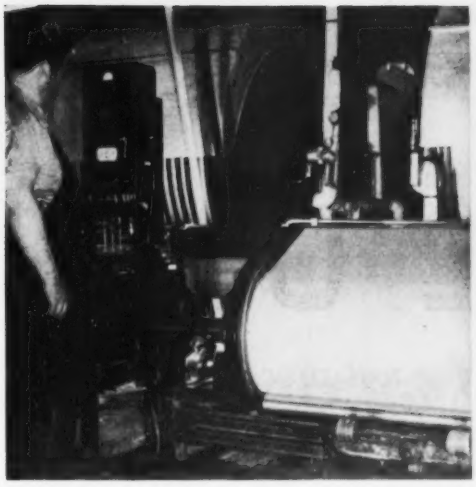


Simplicity of the Winding Unit on ABBOTT Automatic Quiller *Reduces Costly Repairs!*

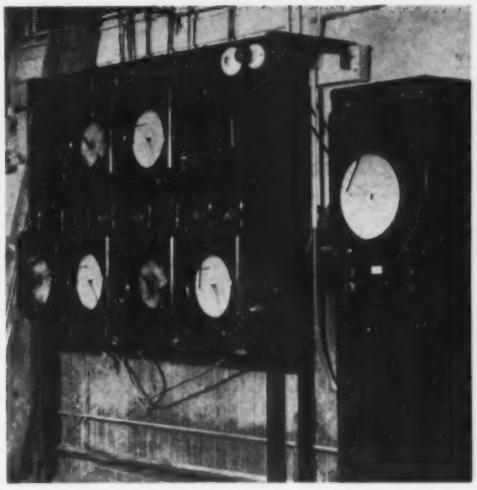
The mill that wants to make a better fabric will switch to Abbott Quillers to wind their filling bobbins. This Traveling Spindle Unit has a double throw cam which winds overlapping layers at both the tip and base of the conical section of the bobbin, which produces a bobbin of superior weaving characteristics. Simplicity of design, with less moving parts and the elimination of hard-to-get-at gadgets keep repair and maintenance costs down . . . operational efficiency at a high point year after year.



ABBOTT MACHINE COMPANY
FACTORY AND MAIN OFFICE:
WILTON, NEW HAMPSHIRE
SOUTHERN OFFICE: GREENVILLE, SOUTH CAROLINA



VACUUM TUBES are installed in speed-control unit at cotton slasher to aid measurement and control of warp-yarn tension.



ELECTRONIC INSTRUMENT PANEL for slasher indicates, records, and controls moisture in warp yarn.

Superior CONTROL Possible With Electronics

HIGHLIGHTS: *Electronic devices are 8 to 16 times more sensitive than mechanical—About 800 regain controls in use—Simplified slasher operation seen—Remote humidity instruments put into operation.*

By KARL SELDEN, JR.
Textile Shops, Spartanburg, S. C.

ELECTRONIC CONTROLS are obtainable with a sensitivity 8 to 16 times that of mechanical potentiometers. It is now possible and practicable to measure continuously such things as regain in yarn and cloth; pH in water and chemical solutions; concentrations of chemical solutions; dry-bulb, wet-bulb, and dew-point temperature; relative humidity; flow; and pressure. These items can be controlled to a degree of sensitivity and accuracy previously unobtainable. Furthermore, it is now possible to make some measurements that formerly were unobtainable on a continuous basis. And it is axiomatic that, if a measurement of a variable can be made, automatic control of the variable is possible.

The first large-scale use in the textile industry of an instrument having vacuum tubes and electronic circuits was for the control of regain in warp yarns at the slasher.

Fundamentally, all mills mix and cook size in much the same way. The cooking vessels are usually equipped with a temperature control; and associated with that temperature control will be either a cam-operated control device or a small timer. The choice of the type of equipment used is purely a matter of opinion. The majority of the cotton size-cooking installations, however, use the cam-operated type of control, because with that type it is possible to regulate the rate at which the solution is brought up to the cooking temperature, and then to hold that temperature for any given length of time. With the so-called elapsed-time type of control system, it is not easy to regulate the rate of temperature rise.

After the size solution is properly cooked, it is usually pumped into a storage tank, where it is held at some fixed temperature until it is to be used in the size boxes. The holding temperature will depend on a number of factors and probably is not of much consequence. However, the size solution is not allowed to drop in temperature to the point where it congeals or gelatinizes.

SIZE LEVEL. It has been found that the level in the size box should be kept to the optimum point. A varying level results in a varying quantity of size on the yarn, since the lower the level the shorter the length of time the yarn is actually in the size solution and the harder it is for the yarn to pick up size and bring it up to the squeeze roll. If the level is too high, the rolls may not be able to squeeze out enough of size picked up to obtain the 10, 11, or 12% that is required. It has also been discovered that the size level can have quite an effect on the final regain of the warp yarn.

Were it not for the fact that the size solution contains a lot of water, its application to yarn would be simple. But since it does contain water, the yarn has to be dried; and currently the dryers used are of the cylin-

(Continued on page 216)

Condensed for quick reading from paper delivered by Mr. Selden before the recent Southern Textile Association meeting in Greenville, S. C.

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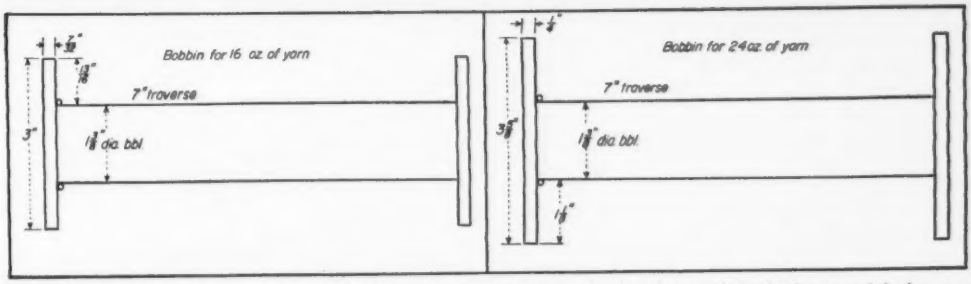
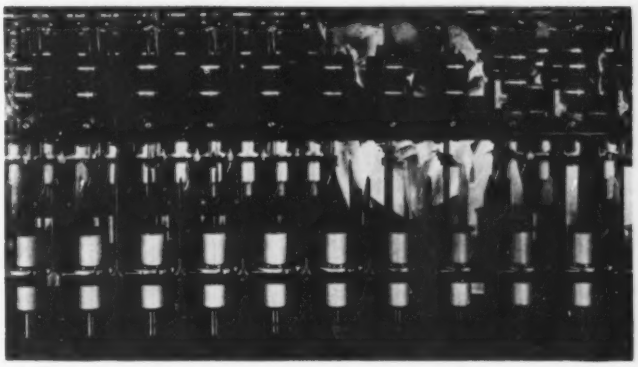


BOBBIN dimensions shown have been used successfully in modern combination-yarn throwing plants. Bakelite heads are needed when yarn from doubler-twister is to be steamed.

System Saves Money in Throwing COMBINATIONS

HIGHLIGHTS: *Knotless yarn preferred in viscose-crepe and acetate-rayon yarn — Balanced operation quickly pays for doffing trucks—Cut disks and eyes cause broken filaments and skinbacks — Travelers play important part.*

By JOHN LUCAS



DOFFING INDIVIDUAL SPINDLES as crepe packages run out will save money and reduce knots. Machine runs continuously.

WHEN PLYING COMBINATION YARNS containing one end of viscose crepe and one end of acetate rayon (estron) on any type of doubler-twister, it is best not to piece up any breaks that occur. Doff out the spool on the spindle, regardless of the amount of yarn on it. These spools can be usually used for filling purposes; if not, short warps can be made from them, or pieces can be used in creels to replace run-outs.

It is highly desirable to obtain 16 to 24 oz. of knotless combination yarn. Knots are often considered defects; they also often become soiled, and many times will not pass through the reed.

Tension on the acetate-rayon end should be controlled at all times. The disk-type tension has been found to give excellent results. When the tension is running properly, the top disk will rotate, thus giving an even pull on the yarn.

Tension can be increased, if so desired, by placing a washer or suitable weight in the cup of the disk. The tension used should be tested regularly with a tensiometer, as uniformity of all ends is very important. The disks should be checked at regular intervals to see if they are cut. Cut disks will cause broken filaments and stripbacks, two bad forms of defects in combination yarns.

The porcelains on the faller wires of the doubler-twisters should be checked regularly for cut eyes, which are a cause of broken filaments. At times, the cuts will cause the yarn to push back and result in a stripback. Quick-change porcelains are desirable because they can be replaced so easily. It does not pay to take a chance with a cut porcelain, especially when going from a fine to a coarser denier.

Several types of feed rolls are used, such as the single feed roll, the double feed roll (one roll directly on top of the other, spaced approximately $\frac{1}{8}$ in. apart), and the corrugated feed roll. The feed rolls should be free from any nicks and kept smooth at all times. Cut feed rolls cause split ends. It is important to keep separate the laps around the feed roll. Four laps around the feed rolls are usually sufficient for good feeding of the yarn to the take-up bobbin.

CENTER EYE. The gathering eye guide, which is between the feed rolls and the spindles, should be large or small according to the size of the head of the spool on the spindle. This eye

(*Continued on page 222*)

The article starting on this page can be considered a companion piece to the one by Mr. Lucas in the November, 1948, issue, page 119. Letters continue to come in concerning that article. Here Mr. Lucas gives more specific detail that should be useful in manufacturing good-quality combination yarns.— Editor.

STOP COLOR BLEEDING with *CULOFIX

Preserve crisp detail and contrast of prints by using time-tested Culofix as an after treatment.

Kill bleeding troubles no matter where they occur—in the finishing bath—batching up after dyeing—in cross dyeing, etc.

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If fastness to water or prevention of color migration is essential to your direct color dyeings, write for Technical Service Bulletin #204-106.1. Our technical staff is at your service without obligation.

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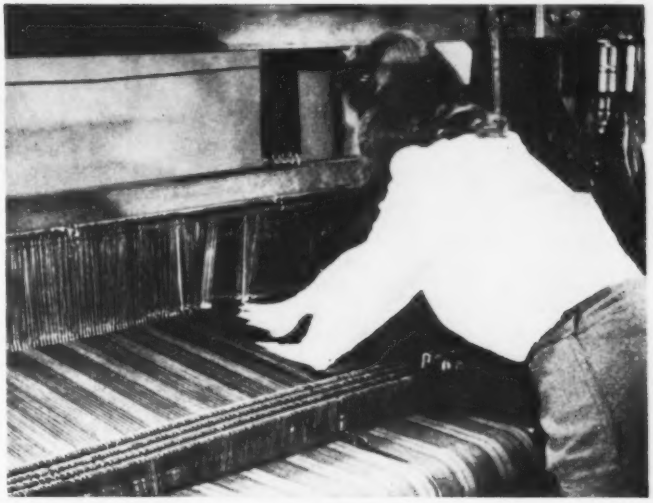
Seconds Can Be Reduced in PIECE-DYED WORSTEDS

HIGHLIGHTS: *Warp streaks are prevalent defects—Crowded heddles and uneven dents in reeds often cause them—Many loom parts should be checked for cleanliness—Proper sizing can avoid floats in high-sley fabrics.*

By EUGENE P. SCHREMP
Consulting Editor, TEXTILE WORLD



AFTER TYING WARP ENDS, *weavers should be sure to even up heddles to prevent warp streaks that may not show up until cloth is finished.*

PIECE-DYED WORSTED FABRICS must be given special attention in weaving, and even in warp preparation, to keep seconds and allowances to a minimum. Special care is needed when fabrics are dyed in light shades. Faults may sometime escape detection until the cloth is in the last stages of finishing. When faults are found at this stage, a number of cuts may be woven and in the different departments before the defects can be remedied.

Imperfections which would be unnoticed in fabrics with a semi- or undressed finish may show up as serious faults in gabardines and other clear-finished piece-dyed fabrics. When weaving such fabrics, looms must be cleaned thoroughly before putting in a new warp. Binders should be removed from the shuttle box and the box cleaned to remove lint and waste. Leather-faced binders should also be cleaned, as the lint and dirt may be carried into the cloth in weaving. A strip of cloth or paper hung on the tierod of the loom in back of the picker balls will prevent oil from splashing on the warp when the picker balls are oiled. Temple rings should be taken apart, cleaned, and oiled. The excess oil must be wiped off, as oil stains are hard to remove. Rust from improperly lubricated stirrups on the equalizers or harness jacks will cause stains which may not come out.

SLASHING HELPS. Warps should be slashed to prevent section marks. Uneven sections in a warp beam are certain to make marks which may not be noticed until the fabric is dyed and finished. Fine single-ply warp yarn should be sized, and a sufficient number of separator bars used to prevent the yarn from sticking together before it is beamed.

Reeds must be in good condition; the slightest bend or uneveness is almost certain to cause a reed mark. Reeds should be thoroughly cleaned and inspected. All wire dents must be straight and evenly spaced. Slightly damaged reeds may be repaired, but it is a good practice to pick the best reed for gabardines and like fabrics.

Harness hooks should line up. Heddles must be loose and slide easily. A new type of self-adjusting heddle bar is now being used in a number of mills specializing in piece-dyed gabardines. Heddles bunched at the quarter hooks will cause a streak which will show up warpwise. Warp stop-motion separator must be centered to prevent chafing of warp yarn.

Imperfections such as marks and streaks usually give some clue to their cause. Reed marks will show up, when the fabric is through-lighted, as a light or heavy place running warpwise. A bent dent will crowd the warp ends where the dents are closer together and will make a dark line, but there will also be a light place beside the dark line, caused by the uneven space. These marks will run in a straight line. It will start at the time the reed has been damaged and run until the reed has been repaired.

Reeds may be damaged by a careless weaver using a thick reed hook or by his twisting the reed hook when drawing in a warp end. Sometimes a reed mark may be seen to start at a warp smash. This mark is caused by the shuttle damaging the reed. After a smash or breakout has been repaired, the reed should be inspected before the weaver is allowed to start up his loom.

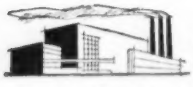
Loomfixers should be instructed to have the reed cap loose and not to hammer it down on the reed. A tight reed cap will cause the reed dents to spring out of shape and cause marks. Most serious trouble is caused by a reed which is damaged so slightly that a mark will be seen only after the fabric is dyed and finished.

HEDDLE STREAKS. Heddle marks will show up as streaks running warpwise. If they are in the center, or the quarter, the heddle-bar hooks may be suspected. Heddles bunched together will chafe the warp yarn. When the fabric is dyed, the chafed yarn will have a different appearance.

Any condition which may chafe the yarn should be avoided. Marks running for a few yards and disappearing only to reappear in a different place may be caused by a weaver spreading the heddles when drawing in a broken end. Weavers should be instructed to

(Continued on page 210)

It's time you shackled this PROFIT THIEF!



He's the meanest kind of thief—sly, slick and vicious as they come—stealing profitable production from machines in plants all over the country. But he can be stopped!

Perhaps you haven't even suspected that he works in your plant. Yet, that may be the *very reason* that you should *make sure* that he isn't!

LOOK BEHIND THESE MASKS

Are you still scooping grease from drums to guns by the old-fashioned "hand and paddle" method—wasting time, wasting grease, risking grime and dirt? There's a profit thief at work!

You can save 3¾ man hours for every 100 lbs. of grease.

Are you lubricating machines by hand—the old time-wasting, risky, hit-or-miss way? Watch for *big* losses here!

You can save up to 23.9 man hours in applying each 100 lbs. of grease.

Have you ever counted the losses on "downtime"—production interruptions for lubrication, part failures or replacements due to faulty lubrication? Unmask this thief!

You can lubricate hundreds of bearings from one central point, with the correct lubricant, in the right amount—while machines continue to produce.

Now are you suspicious that a profit thief is working in your plant?

Remember, his disguise is "old time," hit-or-miss, costly lubrication methods that add to the growing costs of production.

There's one proved way to end this needless profit drain!

An Alemite representative can tell you in 10 minutes how Alemite Methods will simplify and better organize your lubrication procedures. He can show you how mechanized lubrication from "barrel-to-bearing" will increase your production and profits.

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Another Product of STEWART WARNER

MODERN LUBRICATION METHODS THAT CUT PRODUCTION COSTS

The Election of November 2, 1948 GAVE NO MANDATE FOR SOCIALISM

The President and those who support his legislative program have objected to the substance of my previous editorial, which appeared under this headline: "Now is the Time to FIGHT SOCIALISM in Washington."

In that editorial I explained how Washington is poised to follow the disastrous policy of forcing industry to skimp on new plants and new equipment. That policy landed Britain in the numbing embrace of the Socialists. I cited the experience of Britain to show how such skimping on industrial tools can bring a nation to economic stagnation . . . and Socialism.

The President, in his recent Jackson Day speech, brushed aside this warning . . . "They are again trying to frighten the people with the old worn-out bugaboo that Socialism is taking over in Washington." Senator Francis J. Myers of Pennsylvania asserted that I was guilty of "warfare against any reasonable effort to keep our system of free enterprise working."

These criticisms may be sincere. But they are not well-founded.

I want to show why they are not well-founded by basing this editorial on Washington rather than Britain.

In Washington the Administration has proposed a legislative program, the key parts of which would clearly put the country far on the road to Socialism. Let us see how.

There are two steps in the process:

FIRST: The government by its taxation program undermines private industry so that it cannot provide itself with the necessary new plant and tools.

SECOND: The government itself steps in to provide the plants and equipment that it has blocked industry from getting. *That is Socialism.*

Here is how Washington is promoting Socialization of the steel industry—and of other industries.

Steel has been expanding its capacity and improving its equipment chiefly by plowing back its profits. During the last three years it has spent $1.4 billion for new plants and new tools. That was more than the companies had available from their own earnings. But profits provided more

continued on next page

than half of that money—more than $700 million. The remainder came from loans and from depreciation reserves set aside out of the earnings to replace worn-out equipment.

Profits must continue to provide the funds needed to pay for the bulk of the steel industry's necessary expansion. That is because private citizens, their income slashed by heavy taxes, have not been willing to buy steel stocks even at prices ruinously low for the companies and their present stockholders. The stock market currently prices the mills and other facilities of the nation's principal steel-producing companies at far less than fifty percent of the cost of reproducing them.

Let us take another example. Profits are essential to expansion in the electric light and power industry also. This year private companies are planning to buy $2 billion worth of new plant and equipment. To do that without going overboard in debt, they must sell to the public some $300 million worth of common stock. A squeeze on their profits would make that sale virtually impossible.

For tens of thousands of small business enterprises profits afford virtually the only practical source of funds for new equipment and expansion.

In the face of these and many other examples that might be cited, what is the most effective way to prevent industry from re-equipping itself and expanding is capacity to meet our essential needs?

Obviously, it is to cut down profits. And that is what the Administration is trying to do. The President has declared that steel prices are too high, and is demanding that Congress raise taxes sharply on all corporations.

There you have the first step toward socializing industry.

Next comes step two. Have the government supply the tools and equipment which, by taxation, it prevents industry from getting.

The Administration has proposed legislation to carry out this second step. It is called the "Economic Stability Act of 1949," for short, the "Spence Bill."

This bill gives the President the power to provide industrial facilities—in steel, power or any other industry—where he finds that a shortage is hampering or is likely to hamper the economy.

True, the bill says that the government is not to construct new plants if private companies will do it through government loans, on terms prescribed by the President. That may be just one step short of complete socialization. But it is only a short step. And the Spence Bill authorizes the government to take that step.

By itself, the Administration's "Stability Act" sounds harmless enough. It would have the government build plants only as a last resort. But it provides also that if private enterprise cannot turn out all the goods the country needs, the government can and should step in and provide the equipment to do it.

Now, take that power together with an Administration tax program that undercuts the ability of private enterprise to supply the new plants and equipment it needs out of its own earnings. That combination promotes government ownership and operation of industry.

And that is Socialism.

The American people, of course, have the right to live under any system they choose—Capitalism, Socialism, Fascism, Communism, or what-have-you. But before Socialism or any other "ism" is imposed upon us from above, the people should know the facts. If this editorial shall have contributed in some small degree to that end it will have served its purpose.

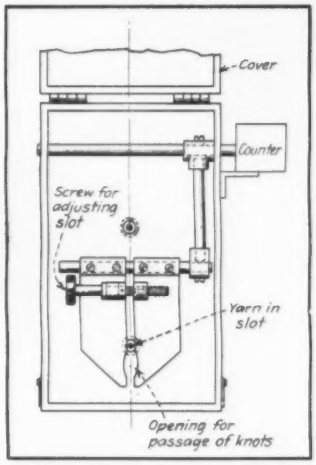
The election of November 2, 1948 gave no mandate for Socialism.

James H. McGraw, Jr.

President, McGraw-Hill Publishing Company, Inc.

TEXTILE Equipment NEWS

Knots Counted Rapidly Without Yarn Breakage



***COUNTING KNOTS OR SLUBS** is accomplished by passing yarn through an adjustable slot. Knots or slubs are said to actuate the counter, then pass on without breaking the yarn. Device is said to be usable on any type yarn of any fiber.*

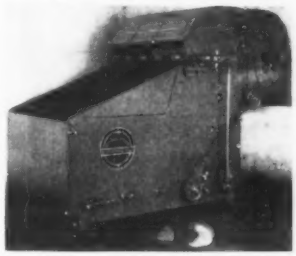
A new and fast method for accurately finding the number of knots and/or slubs in a given length or lot of yarn has been developed by Berkeley Testing Device Co., 1041 Winchester Ave., Martinsburg, W. Va. The tester does not harm the yarn being checked.

Yarn is tested by running it through a slot between two metal plates. The width of the slot is adjustable to the diameter of yarn under test. If a slub or knot occurs in the yarn, it catches briefly and pulls the two metal plates backward, activating a counter. As the plates move back, the yarn moves downward along the slot until it reaches a larger opening which allows the knot or slub to pass. The manufacturer claims that jaws set at 0.005 in. will count but allow to pass all slubs of diameter greater than 0.005 in. Jaws at the same setting have counted out knots as large as $\frac{1}{4}$ in. in diameter, then allowed the knot to pass without breaking the yarn.

The counter enables mills to find the percentage of knots and slubs to be expected in a yarn lot by sampling a predetermined amount of the yarn.

The device is portable. It may be used on soft, low-twist yarn or hard twist yarn of any fiber or any number of plies, according to the manufacturer. Price is $32.00.

Bramwell Feeders Have Improved Features



***DIAGONALLY SUSPENDED SCALE** assures diagonal presentation of dumpings to card feed rolls.*

A new line of Bramwell feeders has been developed by Geo. S. Harwood & Son, 50 LaGrange St., Worcester 8, Mass. New or improved features of the feeders are said to result in greater productive capacity, increased efficiency and production flexibility, lower maintenance cost, and more rugged construction.

Features of the new feeders are:

1. An all-steel main frame said to provide increased machine strength and to insure parallel straight-edge apron lines, eliminating inward buckling.

2. A large-capacity hopper which reduces the frequency of refilling. The hopper also has a self-reducing density-control device designed to maintain constant density regardless of amount of stock in hopper.

3. A more sharply slanted spike apron to increase initial loading of stock on pins and permit lower operating speeds, thus reducing vibration and shock. The apron also has a variable-speed drive.

4. A multi-pinned convex comb which can be adjusted to control amount of combing and distribution and amount of stock on apron.

5. A diagonally suspended scale of the center-latch type to insure rapid, accurate weighing, plus diagonal presentation of dumpings to the card.

6. An automatic catch-pan device designed to close the aperture above the scale pan instantly as the correct balancing weight is reached.

Paramount Introduces New Finishing Equipment

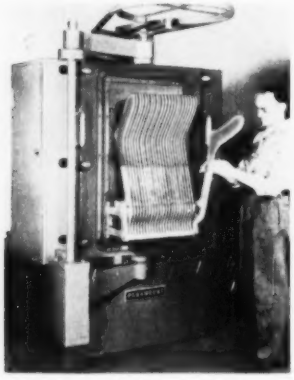
A new transfer machine, called Paramark, of all-metal construction including a stainless-steel top, is one of several new developments by Paramount Textile Machinery Co., 131 S. Wabash Ave., Chicago 3, Ill. The machine is available in a 30 x 48-in. size for women's stockings, and in a 24 x 48-in. size for half-hose and anklet transfer application.

Paramark features a self-levelling iron designed to overcome uneven transfer impressions caused by any slight unevenness in the stack of goods. The operator can adjust the speed of the machine by means of a selective speed control.

The heat of Paramark's transfer iron may be changed quickly by the turn of a knob to the proper temperature for any transfer requirements. Changes in transfer irons are easily made by releasing two screws and disconnecting the electrical plug.

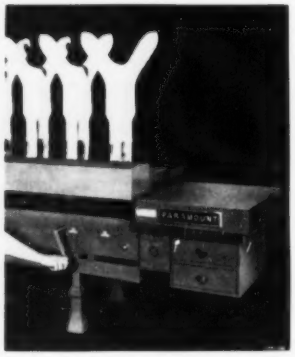
Paramark can be operated from

A SELF-LEVELLING IRON is said to overcome uneven impressions caused by unevenness in a stack of goods.



A VERTICAL RETORT accommodates 72 forms, 36 on each side.

CAST ALUMINUM is used in Paramount's new pre-boarding form.



TURNING HANDLE on this air-cooled table raises or lowers wet goods to most efficient working level.

standing position by slight touch on a control bar conveniently located at the front, or from sitting position by touching a knee-operated switch. The operator's hands are always free to feed transfer paper and turn goods.

The half-hose and anklet Paramark transfer machine has a small suction grill flush with top of table to hold the goods stationary.

The transfer roll on the women's Paramark machine may be fed from the back or side, as preferred.

Paramark offers a 6-in. adjustment range in the height of the machine, from 35 to 41 in. A shelf is provided for operator's personal belongings.

All driving mechanisms, including selective speed control and vacuum pump, are encased inside the metal cabinet. Operating switches, temperature control, and pilot light are on the front of the machine, readily accessible to the operator.

The machine is equipped with ¼-hp. motor which operates from a 110-v., 60-cycle, single-phase circuit.

A new vertical retort,. the Paramold, with fully automatic electric controls, has been developed for pre-boarding half hose and anklets made of spun and filament nylon, or combinations of nylon and other yarns.

A new type, single revolving door accommodates 72 forms, 36 mounted on each side, in perfect working position.

Automatic electric controls, combined with new design principles, are said to give a uniform, controlled finish.

The Paramold 33 is compactly designed to hold steam consumption to the minimum. Clock-like operation allows operator to concentrate on actual boarding and stripping.

Paramold 33 accommodates the smallest size of children's form and sizes as large as 14 in men's forms.

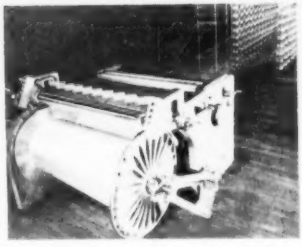
Other features of the new retort are minimum maintenance; smooth, quiet operation; uniform stitch setting, as steam is baffled; plus safety construction features. The Paramold 33 makes use of a new cast-aluminum pre-boarding form. The form may also be used in other Paramount retorts.

Designed for preboarding half hose and anklets made of spun and filament nylon and combinations of nylon with other yarns, Paramold cast-aluminum forms are said to produce a superior and permanent finish.

The new type aluminum pre-boarding form is rigid and has the rocker arm and form cast in one piece.

A new air-cooled table is designed for greater boarding efficiency and working comfort. Means are provided for raising or lowering wet-goods troughs to the most efficient working level. A variable-speed motor for the fan controls the velocity of air flow, which is adjustable for summer and winter temperatures. A baked-enamel finish is used for the inner surfaces of wet-goods troughs. Two metal compartments are provided for batch tickets and operator's personal belongings.

High-Speed Warper Runs 900 Yd. per Min.



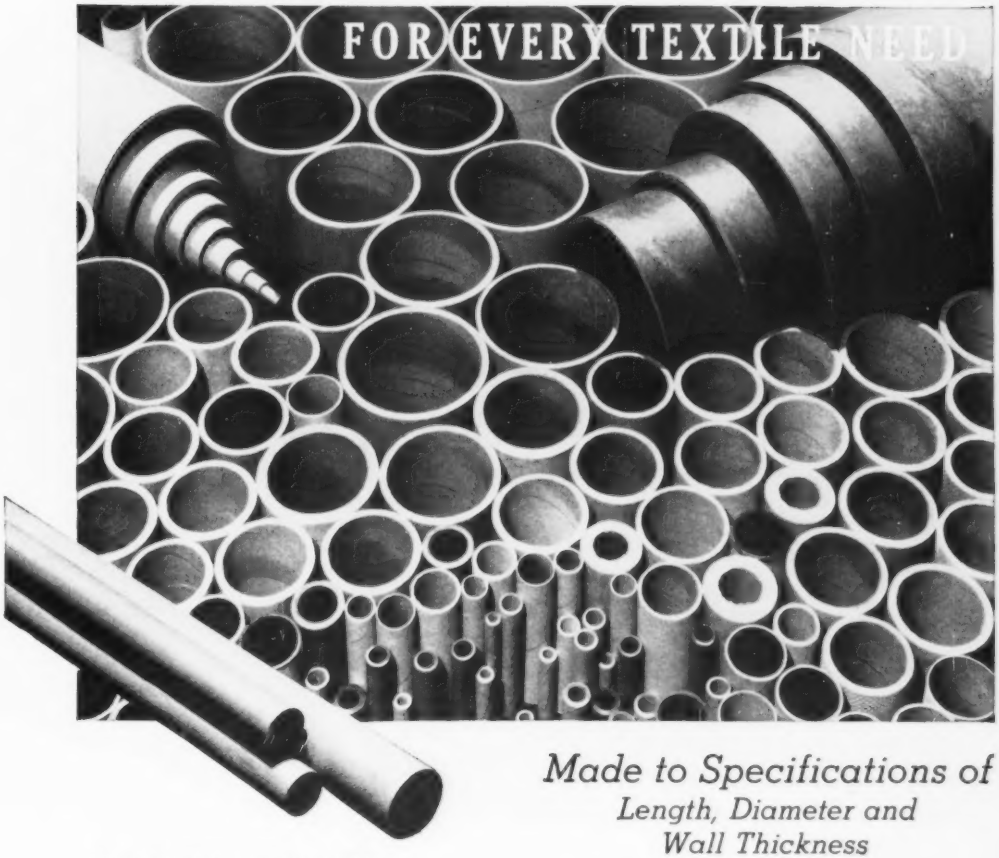
WARP BEAMS up to 36 in. in diameter can be produced by this new warper.

A new heavy-duty high-speed warper has been developed by Sipp-Eastwood Corp., Paterson, N. J. The new warper is heavier than previous models, and builds beams up to 36 in. in diameter, 54½ in. or wider between heads, without vibration.

Beams made on the new warper are said to be very smooth and can be built up at speeds not safe on other types. An all-electronic circuit is said to make operation easy and efficient.

The direct warper has a minimum

TUBES



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Parallel or Spiral Wound

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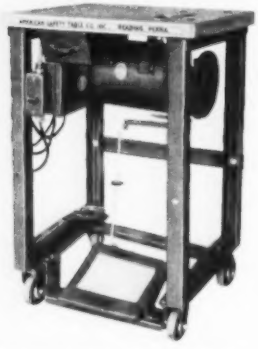
speed of about 150 yd. per min., with a 4 to 1 range upward to a maximum machine speed of 900 yd. per min., and electrical indication and infinite control of speed from a single point by pushbutton controls. Dynamic braking is provided for, with auxiliary magnetic-motor braking for beam. A slow speed for threading or inspection, operated by a jog-type pushbutton, is provided.

Standard equipment includes static eliminator, dresser rolls, leasing device, two expansion combs, and a traverse motion to prevent rolling of ends and to assure better beam build-up.

V-Belts are used in the main drive to the exclusion of gears or chains.

A separate hydraulic system is provided for handling beams.

Seaming Stand and Motor Are Portable



A PORTABLE INDIVIDUAL STAND and motor for butt seaming of finished fabric has been developed by The American Safety Table Co., Reading, Pa. The stand is equipped with a single-phase motor. Caster mounting makes easy maneuverability possible. Another feature is a pilot light which goes on automatically when the motor is running.

Machine Repairs Worn Hook Bolsters

Half-circle bearings may be installed in hook bolsters on roving frames by a machine developed by E. L. Maness and Dewey McDuffie, two mechanics at Cannon Mills, Kannapolis, N. C. The machine is available from Standard Repair Co., 408 York St., Kannapolis, N. C.

Tests in several textile mills have been successful, it is stated by the patent holders. The machines makes possible the installation of a half-circle bearing in the hook. When the cast seat in the bolster wears, the bevel-gear shaft is then thrown out of mesh with the bobbin gear, and the bobbin fails to turn. Formerly this meant discarding the hook bolster. With the new machine it is possible to cut the seat and install the bearing.

The Standard Repair Co., in addition to marketing machines, plans to cut the seats and repair old bolsters.

Padder Easily Changed In Finishing Operations

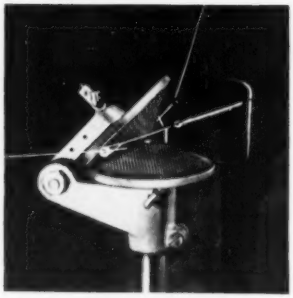
A newly designed line of padders known as the Bullet padders has been developed by H. W. Butterworth & Sons Co., Philadelphia, Pa. The new 2-roll and 3-roll padders are reported to be more flexible and interchangeable than previous padders.

The machines have a streamlined, bullet-shaped frame, are compact in design and functional in operation. For example, it is now possible to convert a 4-ton Bullet padder into a 15-ton padder without tearing out an entire frame or without loss of operational time. Separate pads are no longer required for each operation. Rolls in any diameter from 12 to 20 in. can be used. This interchangeability of rolls to suit the type of operation desired is an outstanding feature of the new padders. The new machines are also designed to operate at any desired pressure from 0 to 15 tons.

Among a few of the features of the new machines are: simplified controls; heavy spherical roller bearings of the adapter type which hold rolls in fixed position; and an efficient, easy-to-reach lubrication system.

The 2-roll and 3-roll Bullet padders are adaptable for light- or heavy-duty operation.

Device Feeds Rubber Yarn Uniformly



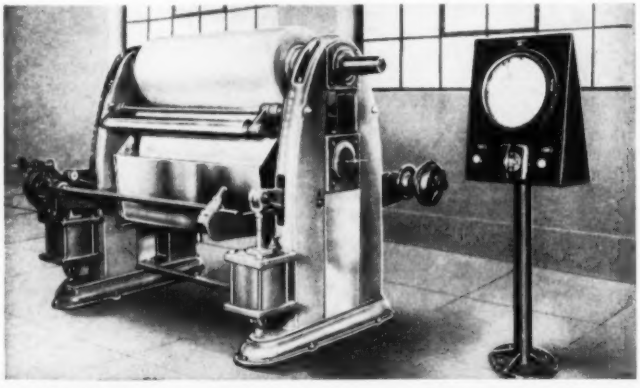
TRACTION-FACED CONES deliver rubber yarn to knitting machines under constant predetermined tension.

A new device said to furnish rubber yarn at a uniform rate to needles has been developed by Scott & Williams, Inc., 350 Fifth Ave., New York 1, N. Y. The new rubber furnisher is designed to eliminate the usual drag of rubber yarn from the cone.

The uniformity of stretch in rubber tops made with this device and the greatly improved appearance due to the more even stitches are results claimed for the new furnishing device. The device is suitable for installation on Komet Links-and-Links and automatic HH-PW machines, and other Scott & Williams models.

The mechanism has traction-faced cones between which the rubber yarn is fed. The delivered yarn is under a specific desired tension as it enters the needles as determined by the adjustment of the spring-tensioned guide sweep.

The cones are gear driven to assure constant speed and delivery. The spring-tensioned guide sweep inserts



INTERCHANGEABILITY of this padder to handle many types of operation by changing only the rolls is a feature of this new model.

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the rubber thread between the feeding wheels when required and removes it after the rubber insertion in the sock has been completed.

The device is self contained and can be mounted at the rear of the machine frame between the bobbin stand and the needles. In this position, it is readily accessible for threading and is in a position to be directly driven from gears of the machine. Little or no attention is said to be required after installation and initial setting.

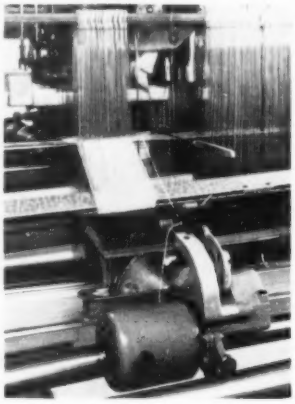
Squeezer and Saturator Have Interchangeable Parts

A new horizontal rope saturator and a new rope squeezer for continuous bleaching have been developed by H. W. Butterworth & Sons Co., Philadelphia, Pa. Higher speeds, better bleaching, and better handling of goods are said to be possible with the new machines during continuous-bleaching operations. Principal parts of the machines are interchangeable, making them flexible in application. Framework, bearings, rolls, air cylinders, and control mechanism of the rope squeezer are interchangeable with those on the saturator.

Appreciable savings in production time are said to be possible with the new machines. Actual production tests have shown savings of 40% in labor costs, and 25% in floor space, the manufacturer states. It is claimed that production speeds as high as 300 yd. per min. can be obtained.

Some features and advantages incorporated in the new Butterworth machines are: faster operating speeds; streamlined design; closures made of stainless steel; rollers completely enclosed to protect workers and keep dirt out; compact, easy-to-reach controls; gentler handling of goods; 3-position poteye panels.

Handing-In Machine Speeds Drawing-In



ENDS ARE HANDED IN automatically by the machine shown here with an automatic reed-drawing machine. Reeding machine is in the foreground; handing-in is behind the harnesses.

An automatic handing-in machine said to handle up to 3,000 ends per hour is now available from Uster Corp., Charlotte, N. C. The handing-in machine, called the Turicum, is said to accelerate the drawing-in operation. [TW, Dec. 47, p. 162] Increases in production of more than 100% are said to have been attained.

In operation, the apparatus selects the end to be drawn in, moves it away from adjacent ends and holds it slightly forward in the most convenient position for the drawing-in hand. As soon as this end is drawn from between the tension disks, the next end is selected and presented. The speed of the machine is adjusted to keep one end ready and waiting for the drawing-in hand. The cyclic action tends to stimulate and maintain a continuous cadence to the drawing-in operation.

When drawing-in through closed drops, the Turicum can be equipped with an automatic drop-wire selector. This device selects the correct drop in the proper sequence, moves it into line with the selected thread, and firmly holds the drop in the best position for drawing in.

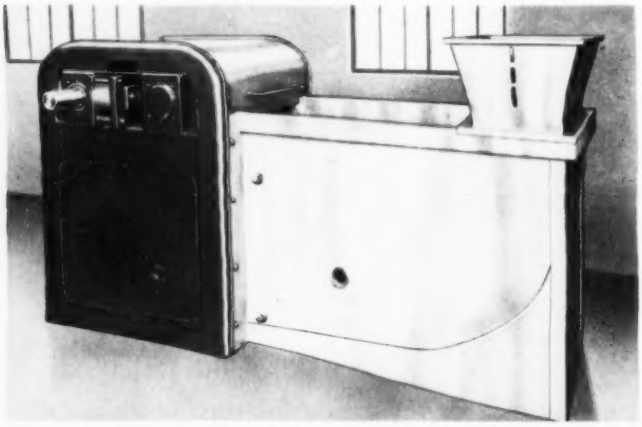
The machine is available in two models, one for single-colored warps without lease, the other for warps with an end-and-end lease with one or more ends to the same lease. The warp may consist of yarns of various counts and fibers.

The Turicum may be used in conjunction with the Uster Corp. reed-drawing and/or drop-wire selecting machines.

Dryers Equipped With Drimeter

The Fielden Drimeter, a moisture-control instrument, [TW, Apr. 48, p. 246] is now available on cloth dryers made by James Hunter Machine Co., North Adams, Mass. as an optional accessory.

Stating that the decision to recommend and install Fielden instruments followed careful testing, James H. Hunter, vice-president, said, "Tests



BLEACHING at 300 yd. per min. is said to be possible with this new saturator (left) and squeezer (right).

Photo Courtesy of
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FLOTEX prints brighter colors than natural gums on all types of fabrics. And for good reasons: FLOTEX produces a high viscosity with one-half the usual solids—only 8 to 10 ounces per gallon . . . deposits a very thin film on the cloth . . . washes out completely . . . and leaves the printed portion of even the sheerest of fabrics soft and pliable.

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National also produces: **AMBERTEX,** a heavy-bodied thickener for white discharge, direct and vat color printing; **CLEARFILM** for sheer, lustrous finishes; **VAT THICKENER 36** for vat colors on cotton and rayon; **TABLE ADHESIVE** for screen printing; **FLOCK ADHESIVE 970** for chenille flock printing; **HOOSIER PEARL CORN STARCH . . . THIN BOILING CORN STARCH . . . CHLORINATED CORN STARCH . . .** and **DEXTRINES.**

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show that the Drimeter continuously and instantaneously indicates the moisture content of fabrics within the limits of about ±1%. The Fielden control unit will vary the machine speed to maintain the moisture content within these limits automatically. Mills which have the meter in operation tell us that elimination of overdrying has improved quality, reduced costs, and increased production."

Tricot Presetting Unit To Be Manufactured

A machine to preset rayon tricot fabrics developed by American Viscose Corp. textile-research department [TW. Jan. 49, p. 116] will be manufactured by the Van Vlaanderen Machinery Co., Paterson, N. J. The machine is said to eliminate tacking and untacking of the selvages, now done to prevent the setting of the curl in the edges during dyeing.

Operation of the machine is said to result in straight course lines, eliminating the expense of straightening, and to prevent "crow's feet" and crease marks. Other advantages claimed are control of stability of acetate-rayon tricot, improved hand, and the knitting of much longer lots which may in turn, be dyed continuously.

SPRAYS OF BOILING WATER *used to uncurl selvages of tricot fabric to be preset are being watched here by Les Walmsley of the Avisco textile research department.*

Sprays of boiling water directed toward the edges of the fabric uncurl them and keep them uncurled until the goods move between two parallel steel plates for the setting process. Coincident with the sprays directed toward the edges, a third hot spray is directed downward onto the center section of the fabric to lubricate its motion over the inclined steel entry plate. A cold spray plays across the entire width of the cloth as it emerges from between the plates to complete the setting.

A pilot machine built by Avisco's research department will process 900 linear yards of acetate rayon per hour. The commercial machine being built by Van Vlaanderen is expected to handle 2,500 yd. per hr.

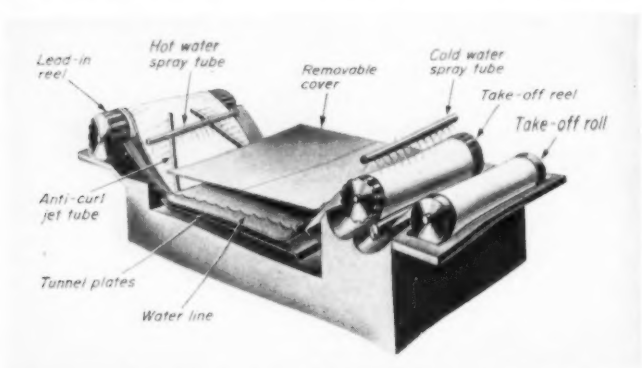
The commercial machine is particularly adapted for use by dye houses finishing big lots of tricot fabrics. Over-all size of the machine will be 15 ft. long and about 16 ft. wide, so that it can accommodate full-width tricot goods. The machine will be built of stainless steel. It is believed that the machine may be used to preset viscose-rayon tricot as well as acetate-rayon goods. Experiments are under way with a view to using it also on nylon fabrics.

Nylon Traveler Now Available

The nylon traveler developed by Clark Thread Co., is now available for vertical rings in standard sizes from ⅜- to 1-in. depths, according to the distributor, M. Lee Bolton, 6153 Oxford St., Philadelphia 31, Pa. Nylon spinning travelers for horizontal rings have not yet been released, but can be expected soon, it is reported.

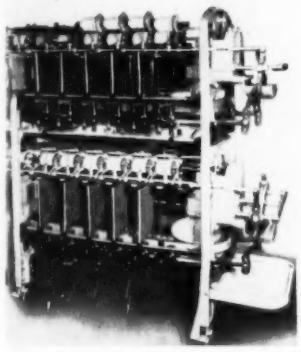
The Clark Thread Co. is now using the nylon traveler extensively with satisfactory results.

Some of the more important advantages said to result from use of the nylon traveler are: greatly increased traveler life, an extremely substantial reduction in lubrication, and cleaner and better yarns produced at much higher speeds. Spindle speeds can also be considerably increased, it is claimed, because the traveler uses air, not friction, as a brake.



ELIMINATION *of "crow's-feet" and straightening in tricot fabrics are two results of presetting rayon tricot fabrics.*

New Twister Uses Single-Head Spool



THE KING-SPOOL *package and twister overcomes many disadvantages of previous two-headed or headless yarn packages.*

For building packages that can be unwound overend, a new rayon twister and bobbin has been developed by Fletcher Works, Glenwood Ave. and 2nd St., Philadelphia 40, Pa.

Advantages claimed for the "King-Spool" twister and bobbin are:

1. The King-Spool incorporates overend delivery without allowing the yarn to slough off. This feature has been evident not only with low-twist voile rayon and nylon, but also with high-twist single-end crepe, cable crepe, combination yarn, and other yarns which have made the application of a totally headless package prohibitive.

2. The King-Spool is designed for winding the tail used in magazining packages.

3. The open end and open wind allow for easier and more thorough steaming than previously obtainable with the two-headed takeup bobbin.

4. Because of the fast traverse em-

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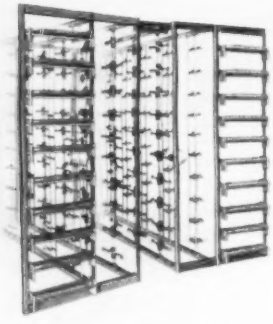
ployed during the twisting of the yarn, there is no chance for the yarn to lap over or fall off the open end of the King-Spool, the company states. No "underwinds" at the cone-shaped head are also claimed. Extensive tests are said to confirm these points as well as indicate that high-speed unwinding may be used.

5. A knock-off motion has been incorporated in the new takeup-bobbin development. Should the end be broken, or the bobbin become full, the King-Spool is automatically lifted from the cork roll. This device, commonly called a "bobbin lifter," is designed to eliminate burnt yarn, to reduce waste, and to help produce clean yarn.

6. The Fletcher King-Spool twister can be made to accommodate a new permanent-type, molded-plastic King-Spool, or a paper-base "expendable" King-Spool for use in shipping or storing the yarn.

Other features are "Oilwell" or rollerbearing spindles, adjustable-swing tension, pressed-steel cork rolls, collapsible guide eyes, etc.

Creel Is Versatile In Application



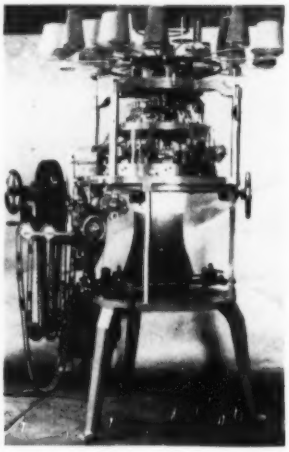
NATURAL OR SYNTHETIC YARNS can be accommodated in this new warper creel.

A new all-fiber warper creel which has several new features is being manufactured by Allen Co., 156 River Rd., New Bedford, Mass. The creel is equipped with holders to accommodate either wooden plugs or paper cones such as are commonly used on cone winders. The package arms used on magazine creels are pivotable for reloading and are designed to give better results with fewer parts.

A conventional stop motion is used on this creel in conjunction with Boral-sil pigtail guides. It is said that results have proved that longer wear can be obtained from these guides. This type of guide also enables quick threading and eliminates many troubles common to other types.

The tension device is suitable for all types of yarn, and correct tension may be obtained in threading by using either one or two tension posts, depending entirely upon the type and nature of the yarn. These posts may be changed to get the desired tension by transferring posts to suitable holes in the tension plate.

New Machinery Maker Presents Interlock Machine



DESIGN FEATURES of this new interlock machine are said to simplify operation and changes.

A new 8-feed, seamless interlock circular-knitting machine said to incorporate many new mechanical features and developments has been developed by Ordnance Gauge Co., Textile Engineering Div., Philadelphia, Pa.

The machine is being manufactured in four sizes, 18, 20, 22, and 24 in. with 8, 9, and 10 needles per in. When needed for knitting mens' sweaters, the 18-in. machine is used for the small size (36 to 38), the 20-in. for medium (40 to 42), and the 22-in. for large (44 to 46).

Each of the eight feeds is equipped with a 3-color positive yarn changer. Each feed can be thrown in or out of action at will. Various stripes can be knitted into any part of the body without the necessity of seaming the sides to eliminate the usual striping steps. The striping fingers are also used when throwing in an additional end of yarn usually required when making a 2 x 2-rib bottom. Either a cotton or a self yarn can be used as a separation yarn between bodies.

The stitch-control mechanism, having three positions on both cylinder and dial, is operated by a cam action and is easily adjustable.

The timing of the control mechanism is incorporated into one shaft which also controls the racking mechanism. The operation of the various controls is said to be positive and cannot be thrown out of timing at any time. In addition, cam actions are positive in both directions with timing built in. Springs are eliminated as operational aids.

The control chain, a part of the main control mechanism, is designed to permit for quick and easy changes without removing the chain from the drum. Special metal jacks, which perform the same function as hole-punched cards, can either be shifted or replaced simply. These jacks make direct contact with the main cam-control levers as the control drum rides up and down during the selective operation.

Driving at two speeds is accomplished through positive mechanical means while using a standard electric motor. Maximum production is said to be insured, since the low speed is used only during the changes; while normal fast speed is used for knitting the body sections. The normal high speed of the machines varies between 16 and 22 rpm. depending on diameter. The slow speed is approximately half the high speed.

On the basis of these speeds, production claimed of mens' sweater bodies, with lengths of approximately 26 in., would be from 8 to 12 per hour., allowing for normal machine stoppages throughout the day.

The machines are adaptable to use with synthetic yarns as well as single-ply yarns in worsted or zephyr.

Cross Feed Improves Garnetting Process

A new cross feed which permits operation of a four-cylinder garnetting machine either as a single unit or as two two-cylinder machines is being manufactured by James Hunter Machine Co., North Adams, Mass. The new cross feed does the work of an intermediate feed without using extra floor space and without splitting the machine.

The cross-feed conveyor is assembled under the middle doffer. A comb is attached to the middle doffer in the 4-cylinder garnett. The web is doffed onto a small apron which carries it out to a lattice apron running up the side

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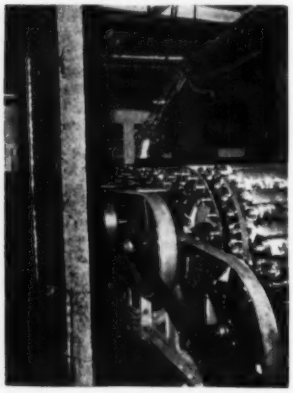
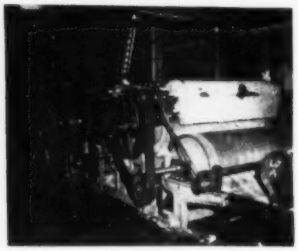


OPERATION OF A GARNETT as a single machine or as two 2-cylinder units is possible through use of this intermediate cross feed.



NO EXTRA FLOOR SPACE nor any splitting of the machine is required for application of the new cross feed.

and then over the middle section. The web is then laid with a folder into two feed rolls which are added to the front of the third main cylinder.

The cross feed enables better blending of various fibers in a single machine. A better-carded stock is also produced.

The feed is designed to fit any type of multiple-cylinder garnett machine.

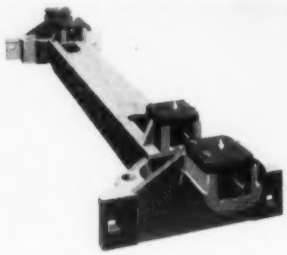
New Spreader Has Improved Bearing Design

An improved model of the Hunt spreader is now being offered by Hunt Machine Works, Inc., Greenville, S.C.

Four machined-in-line bearings on one rigid casting are the major improvement. The bearings are designed to eliminate improper alignment on installation and later replacement of bearing bushings. The difficulty of keeping the loomside bearings tight and in proper alignment is overcome in the new spreader by elimination of the loomside bearings. Rigid union of spreader and loomsides is said to hold gears in proper mesh at all times. The new spreader is reported to require no adjustment at the time of installation, nor later adjustment if it is desirable to replace bearing bushings.

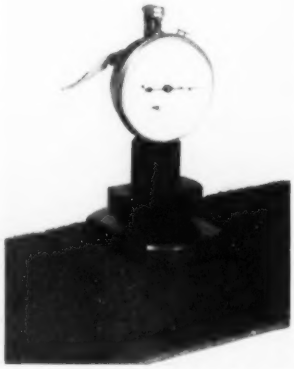
Heavier weight of the new spreader is designed to provide greater rigidity and sturdiness in the spreader-and-loom union and is said not to interfere with ample room for beams, heddle frames, or spring-type crank arms.

Claims by the manufacturer for the new version of the original spreader include reduced vibration, fewer breakdowns, lower maintenance cost, more picks per minute, and the production of higher quality cloth. The new Hunt spreader is manufactured in models for all makes and models of looms, including the latest.



FOUR CRANKSHAFT BEARINGS, machined in line, prevent misalignment of loomside and spreader bearings.

Pile Measured to 0.001 In.



PILE-HEIGHT-MEASURING device, the Pileometer, is now available from F. F. Metzger & Son, 2600 N. Sixth St., Philadelphia 33, Pa. Accuracy to within 0.001 in. is claimed. The portability of the unit makes possible pile-height measurement at the loom, shearing machine, or other points in the pile-fabric manufacturing process.

Cloth-Inspecting Machine Shows Cloth "Stationary"

CLOTH INSPECTOR views 18-in. lengths of cloth that appear to be standing still when using this new machine developed by the Institute of Textile Technology. Housing at left contains adjustable mechanism for synchronizing oscillating mirror with cloth movement.

A stationary image of moving cloth is achieved in the new inspecting machine developed by the Institute of Textile Technology, Charlottesville, Va. One model was placed on trial in Callaway Mills and has been improved by the mill. Arrangements are being made to manufacture the machine.

Instead of viewing fabric directly as it runs over an inspecting, or grading machine, an operator using the ITT model sees a reflected, stationary image, 18 in. at a time. An oscillating mirror tracks the cloth as it runs and quickly flicks back to the next section. There is a slight overlap. Operator eyestrain should be reduced and better, faster grading should be possible.

A mill trial at Callaway Mills resulted in the introduction of a clutch release. With it, the fabric can be pulled back at any time for such things as working on the back of the cloth.

The fabric can be front- or backlighted or both. It runs over a Lucite sheet which is protected from abrasion by insertion of a replaceable sheet of cellophane.

The machine can take cloth from rolls, folds, or any usual form. It automatically rolls up the examined fabric. When the fabric supply runs out, the machine is stopped automatically by means of a built-in stop motion.

The inspecting machine is built to run from 20 to 60 yd. per min. It has a convenient handwheel speed control. A foot pedal starts and stops the

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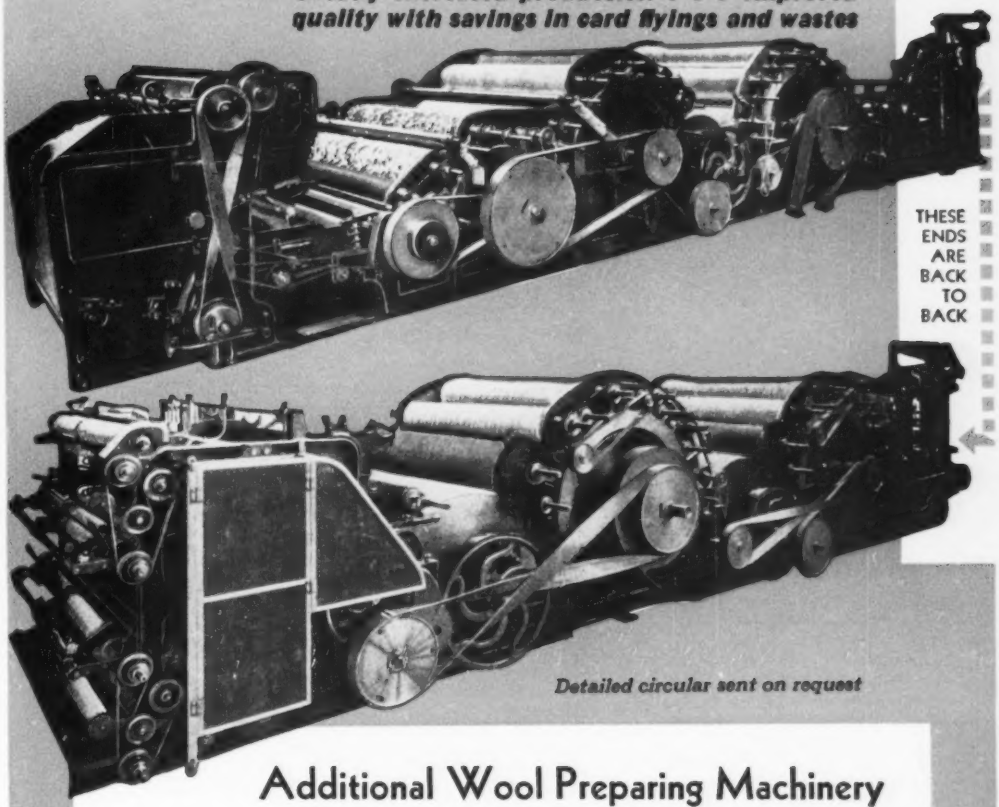
for the manufacture of Fine, Medium and Carpet Wools

Greatly increased production . . . Improved quality with savings in card flyings and wastes



Detailed circular sent on request

Additional Wool Preparing Machinery

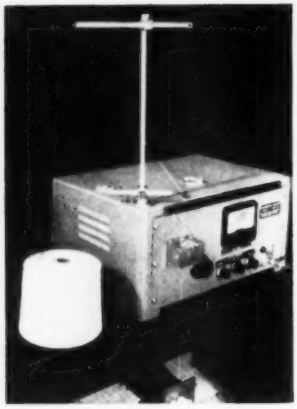
Oiling Device • Mixing Picker (Fearnaught Type)
Picker Feeders • Automatic Card Feeders
Patented PERALTA Machine
Intermediate Center Draw Broad Band Feed
Tape Condensers
Woolen Cards with Two, Three and Four Cylinders

Duesberg-Bosson of America, Inc.

FITCHBURG, MASSACHUSETTS

machine; another releases the clutch. Both hands of the operator are free to feel, burl, or tag the cloth.

ITT Develops Tester for Yarn, Roving, or Sliver



UNIFORMITY METER, developed by Institute of Textile Technology, reads directly in yarn counts. A standard recorder, not shown, can be plugged in if desired. Speed of sample can be varied at will.

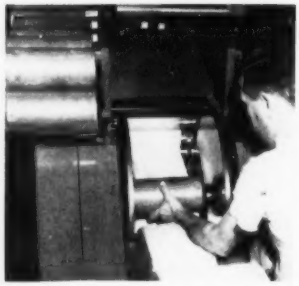
Quick testing of uniformity of yarn roving, or sliver is possible in the new electronic uniformity tester developed by the Institute of Textile Technology, Charlottesville, Va. The dial can be read directly in yarn counts for quick determination of size and uniformity of yarn being spun. If a written record is desired, a standard Brush recorder can be plugged in.

The instrument is designed to be taken directly to yarn as it is being run, if desired. There is no machine limit on the speed at which a sample can be passed through. Up to 60 ft per sec. has been used for testing cotton yarn, but 5 to 10 ft. is considered more normal. Roving or sliver is usually run through 3 to 6 in. per sec.

The condenser plate through which the sample passes has three slots. The finest on the machine illustrated measures cotton from 10s to 100s, the middle slot measures cotton from 1s to 10s, and the coarsest opening is for from 0.1s to 1s cotton count. The scale can be calibrated for other yarn numbering systems as desired.

To date, the ITT has built five machines and is planning to have them built in quantity. Since the machine measures mass, not silhouette area, the amount of twist in the yarn has no effect on readings.

Micarta Lap Roll Holds More Cotton



LIGHTER WEIGHT, by 46 to 49%, is one feature of the Micarta lap roll.

A new Micarta lap roll designed to fit any of the standard lap winders now in use is available from Westinghouse Electric Corp., 306 Fourth Ave., Pittsburgh 30, Pa. The lap roll is the result of two years of field-service testing, during which time it is reported proved to have a long service life.

Micarta is a tough, laminated material that is said not to chip, dent, or splinter. Because of the resinous binder used in manufacturing, Micarta products are impervious to moisture and do not require a protective varnish coating.

These Micarta lap rolls are 46 to 49% lighter than rolls now in use.

To assure a concentric roll, the Micarta lap roll is put through a centerless grinder. This grinding operation produces a roughened surface on the lap roll. The roughened surface causes a rapid pick-up of the lap during winding, and makes it possible to increase production. As much as 15% or 3 lb. of additional cotton can be wound on each lap. Thus overlapping and waste are avoided, and more uniformity is given to the finished yarn.

Useful Accessories FOR TEXTILE MILLS

High-Lift Electric Pallet Truck

A 2,500-lb. capacity electric pallet truck which raises loads 66 in. has been developed by The Yale & Towne Mfg. Co., 4530 Tacony St., Philadelphia 24, Pa. The 1,965-lb. weight of truck with battery permits handling loads where larger, heavy-duty trucks cannot be used. Over-all dimensions of the truck are 39x31 in., not including the forks, permitting its use in confined areas.

Torque Indicator

The Torquemeter, a unit for indicating, recording, or controlling torque, has been announced by Baldwin Locomotive Works, Phila. 42, Pa. The device is essentially a short length of shaft to which a group of strain gages are bonded so as to form a wheatstone bridge. The Torquemeter is available in shaft diameters from ¼- to 18-in., capacities from 30 to 750,000 in.-lb., and for speeds up to 10,000 rpm. or more.

Pallet-Stacking Aid

A steel-cone-assembly method of stacking wooden pallets has been developed by Paltier Corp., 53 W. Jackson Blvd., Chicago 5, Ill. Supporting tubes are fixed at each corner of the pallet. Stacking is as simple as fitting two funnels together. The method is recommended for easy tiering of pallets carrying odd lots of materials, irregular pieces, or loads susceptible to damage in compression.

Variable-Speed Transmission

A variable-speed transmission unit which features a fully-sealed, double ball-bearing assembly has been announced by Standard Transmission Equipment Co., 78 W. Union St., Pasadena 1, Calif. This unit is the smallest of the two types and six sizes of the company. It is designed for applications where a 3.3 to 1 speed range and A section V-belts are sufficient. Base dimensions are 2¼x7½ in.; over-all width 6½ in., over-all height 9 in. Speed adjustments are made by means of a lever control while the machine is in operation.

Battery Charger for Industrial Trucks

An automatic, single-circuit, motor-generator battery charger for motive-power batteries has been announced by The Hertner Electric Co., 12690 Elmwood Ave., Cleveland, Ohio. Furnished as a complete package unit, the charger occupies less than 4 sq. ft. of floor space and is portable. It is claimed to be able to charge a lead-acid battery in 7 hr. and a nickel-alkaline battery in 7 hr.

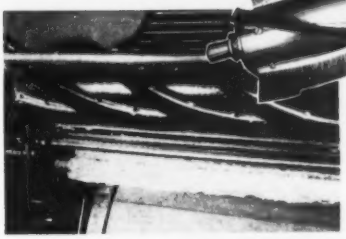
Gas-Fired Unit Heater

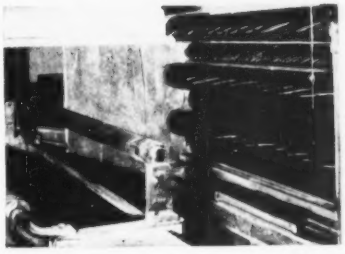
A new, self-contained gas-fired, revolving unit heater has been announced by L. J. Wing Mfg. Co., New York, N. Y. Using either natural or manufactured gas, the heater combines gas burners, heat exchanger, and combustion chamber with a motor-driven fan and revolving discharge outlets. Designed for overhead location, it projects heated air to the working level in winter and circulates room air in summer.

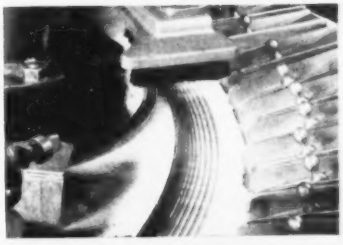
Silicon-Bronze Fire Extinguishers

A new line of 2½-gal., resistance-welded, silicon-bronze fire extinguishers to replace

(*Continued on page 232*)







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Engineered for Your Specific Needs

With the exception of certain standard items such as cotton carding and woolen dabber brushes, all Fullergript brushes for the textile industry are made to your specifications.

Whatever your primary consideration — quality, price, or any other factor — you can get exactly what you want in Fullergript power-driven brushes.

Fullergript may be secured in a variety of materials and can be pre-formed in a variety of shapes. The brush material may be distributed along the metal backbone in heavy, medium or light densities and evenly distributed or tufted.

Fullergript, through its versatility and adaptability, lends itself to almost any brushing operation. Hundreds of mill owners have found that Fullergript saves them time and money in their automatic brushing operations.

It will pay you to investigate Fullergript for your textile processing brush needs. Simply write to . . .

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THIS IS NO. 75 OF A SERIES ON

GETTING THE MOST FROM WINDING

Information about winding designed to show improvements in winding equipment and new ideas in the winding operation

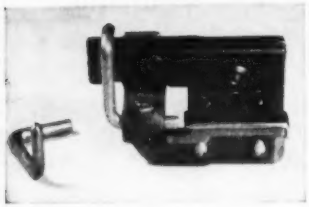


Fig. 1. New Auto-Nip Slub Catcher for Roto-Coner, used for single slubbing of worsted and spun rayon yarns (American System). At left is clamp used for adjusting.*

AUTO-NIP SLUB CATCHER

For higher efficiency in machine inspection of worsted and spun rayon yarns produced by the American system of spinning, Universal engineers have designed a new type of slub catcher, called the "Auto-Nip."

This slub catcher (Fig. 1) is intended primarily as a *single* slubbing device to catch soft slubs, particularly those of the "torpedo" type. It is to be used in place of either the MacColl or the fixed-blade slub catcher and *for this specific type of work alone.* It is not meant to replace the MacColl or fixed-blade slub catcher for all purposes.

However some mills which make a practice of double slubbing may wish to use the Auto-Nip in conjunction with the blade-type on their present double slubbing tension brackets. Whenever it is used in this manner, it *must always precede* the blade-type slub catcher; otherwise it will not inspect the yarn properly.

The Auto-Nip is attached to the Roto-Coner* tension bracket in the same manner as the other types, as shown in Fig. 2. The spring shown (A) in the rear view (Fig. 3) which applies pressure to the hinged bracket is heavier than the one used for the MacColl type. The tension leaf (B) has very finely tooled serrations to catch the slubs; it pivots on the pin (C), and its lower or serrated edge is held against the lower edge of the holder (D) by the light coil spring (E).

When the end of yarn, passing between the anvil and the serrated edge of the leaf, contains a torpedo-type slub, the serrations on the leaf will catch this slub and the leaf will be forced downward against the anvil breaking the end. Skinbacks are minimized due to the fact that the Auto-Nip permits a much larger opening than is possible when trying to catch these slubs with a fixed-blade type of slubber.

The serrated leaf on the Auto-Nip Slub Catcher is shorter in length than the row of needles on the MacColl type. It has been found that this shorter-length leaf facilitates cleaning and permits more effective slubbing. However, because of the shorter length of the leaf, if the Auto-Nip Slub Catcher were to follow the blade-type in a double slubbing combination, the yarn would be traversed beyond the scope of the serrated leaf and, consequently, would not be completely inspected. Hence, the recommendation that the Auto-Nip Slub Catcher *must always precede* the blade type.

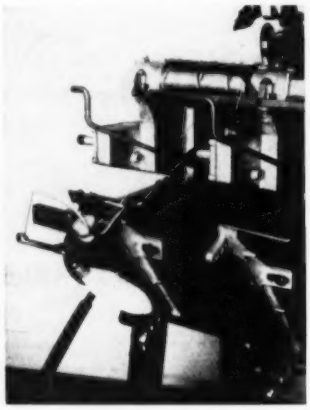


Fig. 2. Auto-Nip Slub Catcher applied to standard single-slubbing Roto-Coner Tension Bracket.

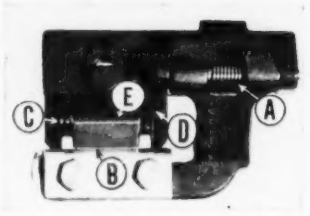


Fig. 3. Rear view, showing (A) spring for bracket, (B) tension leaf, (C) pivot pin, (D) holder, (E) coil spring for leaf.

The Auto-Nip Slub Catcher is set in the same manner as the MacColl type. A different clamp, however, is used to hold the hinged bracket in place while the adjustment is being made. The bail rod preceding the anvil is not used on this slub catcher; consequently, a new clamp was designed. This clamp is a bent steel rod; one end fits in the hole in the bracket in which the thread bail rod is held, the other end fits over the hinged bracket to hold it firmly in position while being adjusted.

See pages on Universal and Atwood Machinery in TEXTILE CATALOGS AND DAVISON'S

*Reg. U.S. Pat. Off.

May 1949

23-8-6

WINDING AND TWISTING MACHINERY FOR NATURAL AND SYNTHETIC YARNS

UNIVERSAL WINDING COMPANY

INCLUDING ATWOOD DIVISION

PROVIDENCE BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA CHICAGO LOS ANGELES MONTREAL and HAMILTON

How the Management Team Can Build Better Human Relations

By GLENN GARDINER

Pointers FOR SUPERVISORS

PERSONAL TRAITS NEED CONSIDERATION

GLENN GARDINER

Has it ever happened to you that someone said, "You look just like So and So?" Or, "I know a man who resembles you so much, you'd think he was your twin?" Usually, we are not flattered by such remarks. We like to think that we are individuals—just a little bit different from anyone else.

Just as we don't like to look or act the same as some other person, so workers don't like to be treated as if all people were just alike.

Every Worker Is Different

There are all kinds of workers in a mill. This worker may agree with everybody, while that one agrees with nobody. Here is a man who is close-mouthed, while another wastes time by talking too much. There is a worker who is just naturally against everything—although often he doesn't even know the reason why. Another thinks he is better than his fellow workers. Some may completely lack confidence in themselves. One may lack "pep," while another may be too active. One man may resent criticism, while another may welcome critical suggestions. One person is naturally suspicious. Others are "swell-headed." Still others are stubborn. Some men, and particularly some women, prefer routine work. For others, the job is too monotonous. Some men—and many women—have a lot of curiosity. Other people plod along without interest.

Why People Are Different

Every worker is different because he is the end product of all his personal experiences up to the present time. No two people have the same combination of characteristics. They may differ in many respects, such as nationality, schooling, family life, health, physical abilities, age, past experiences, disposition, and other personal traits. That's why no two people are really alike, just as no two sets of finger prints are ever the same.

Worker's Own Interests Come First

The way to get close to a man is to show interest in the things that interest him. A supervisor who displays a sincere interest in the safety, health, satisfaction, and advancement of a worker has a fair chance to win his cooperation.

Appealing to a worker to improve the quality and quantity of his work for the sake of better profits for the company will have little influence on his performance. However, an appeal for better workmanship because it will make his job more secure and advancement more likely is an appeal to the worker's own self interests.

If the supervisor can associate the interests of his workers with the goal he is striving to achieve, there is high probability that they will work cooperatively toward that goal.

It is well for a supervisor to know what personal interests come first in the worker's mind. They are job security, fair consideration of grievances, recognition of importance, opportunity for advancement, credit when due, safe and healthy working conditions, fair pay, impartial treatment, and considerate supervision.

The Value of Personal Contact

To understand each man as an individual, a supervisor must get to know his men in a personal way. Friendly talks, without being snoopy, will draw out much information about family, home life, ambitions, likes and dislikes, previous experience, satisfactions, irritations, and personal traits.

Getting acquainted with workers develops mutual confidence. Intimate knowledge of the individual characteristics of each worker enables the supervisor to select intelligently the right tactics to use in each situation.

Showing Favoritism

Nothing discredits a supervisor more quickly in the eyes of his workers than showing favoritism. Men and women are sensitive about the way their supervisor distributes his attention, praise, and friendly contacts. Over-familiarity with some and personal coldness to others breed factionalism and destroy teamwork. Not only must a supervisor be strictly impartial, but he must carefully avoid all appearance of favoritism. Sensitive and jealous people often imagine partiality even where none exists.

Keeping Promises

A supervisor should be as good as his word. One of the most dangerous tactics is to make a promise in the hope that something may happen before the time for keeping the promise arrives. Even worse is the promise made without any sincere intention to make good.

It's a good practice for a supervisor to jot down every promise he makes, so he will not forget or overlook the fulfillment when due. Do not make the mistake of assuming that a worker has forgotten about an unkept promise, just because he does not continuously remind you. He remembers and assumes that you remember, too.

"How Am I Doing?"

Workers like to know when they are making good. And they are entitled to know when their performance is or is not up to par. An important part of every supervisor's job is to develop men to do good work. He should keep every man informed, therefore, as to how he stands and whether he is making satisfactory progress. Care must be used, however, not to imply a promise of advancement when no promotion is forthcoming.

Two-way Communication

Men will work with more interest and intelligence when they know what is ahead, what problems will confront them, and just what part their own efforts play. Morale of workers is improved by letting them know in advance about changes that affect them. It is not good supervision to spring surprises. Such tactics help to build up resistance to all changes.

The Key to Successful Supervision

The day you become a supervisor, you become dependent upon others for results. A capable supervisor can multiply himself over and over again through his work force. But to do this, he must study each man to determine the most effective way by which to approach him and get his interested cooperation.

The key to successful supervision of men and women is the careful and thoughtful study of each of them as an individual. Learn their personal traits, and handle each accordingly.

Kinks AND SHORT-CUTS

Sinker-Bed Trick Cutters Ground on This Device

PRIZE WINNER FOR MAY
(February contest)

Many knitting mills have machines for cutting tricks in sinker beds. Of course, the cutting tools used in these machines occasionally need grinding. The grinder shown in the accompanying sketch can be rigged up without a great deal of trouble or expense, and it does a good job of grinding the cutting tools.

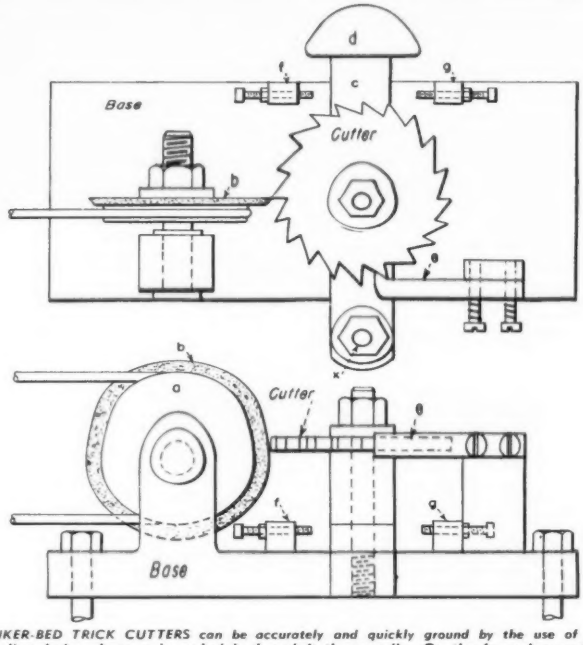
The device consists of a metal base, preferably of cast iron, on which the parts shown are mounted. The parts needed are

a—drive pulley
b—emery grinding wheel
c—swing lever pivoted to base at point *x*
d—handle by which c is worked
e—pawl to turn cutter being ground
f—front adjustable stop
g—back adjustable stop

The trick cutter to be ground is mounted on the vertical stud on lever c and bolted in place by the nut and washer shown on the bolt extending upward through the stud. Pawl e is then engaged with one of the teeth of the cutter. The nut that holds the cutter on the vertical stud must not be so tight that it prevents pawl e from turning the cutter.

With pulley a engaged with a driving pulley that provides power through the band shown, and emery wheel *b* running with pulley a, the grinder is ready for use. Lever c is pushed forward toward grinding wheel *b*, bringing one tooth of the cutter into contact with *b*.

The forward travel of lever c, and therefore the depth of grinding, is



SINKER-BED TRICK CUTTERS can be accurately and quickly ground by the use of this grinding device. Lever c is worked back and forth manually. On the forward movement, emery wheel b grinds a tooth.

A $25 SAVINGS BOND FOR YOUR KINK

You undoubtedly know of some kinks and short-cuts that are helpful to mill operation. Write them down and send them in. We pay promptly upon acceptance—*before* publication. In addition, we award *every month* a $25 Savings Bond for the accepted kink we consider most useful.

Don't delay. Don't worry about dates. Send in your kink *now*. There is always a Savings Bond prize contest going on!

Don't take time to polish up your writing. We'll do that. Don't waste time to make a finished drawing, as our draftsmen will take over. Just write enough details and do enough drawing (if any drawing is necessary) to make clear to the editors how your idea works and what machine or process it is applicable to. Photos can be sent.

Look over the kinks in this and other issues. They will offer you some useful ideas, and they will also suggest other ideas you can send in. We like items that pertain to ways for improving machines, new devices that a mill man can build, attachments that are of merit—anything that will help production, improve quality, or cut costs.

Writing kinks is easy. It's fun. It's profitable. Give it a try. *Now*.

RULES OF CONTEST

1. No limit to number of entries.
2. New contest every month. Each contest closes with kinks received last day of the month. Prize winner is published the third succeeding month.
3. All kinks will be paid for on acceptance. Illustrations, when submitted, do not need to be finished drawings (penciled sketches are satisfactory); but they should be clear and complete. Prize awarded to winner is sent to him after publication. Good photos are acceptable.
4. Previously published material is not eligible for prize or publication.
5. Unless you advise to the contrary, we assume that we may sign your name to your kink when published.
6. Judges of the contest are editors of TEXTILE WORLD. Their decision is final.
7. Send your entries to either address:

TECHNICAL EDITOR
TEXTILE WORLD
330 W. 42nd St.
N. Y. 18, N. Y.

ASSOCIATE EDITOR
TEXTILE WORLD
P. O. Box 1641
Columbus, Ga.

Houghton's youngest detergent is already *going places!*

Yes, you'll find the new flake-type CERFAK headed for "far-away places," snugly packed in 175-lb. cartons and destined for a wide variety of wet processing jobs.

Cerfak's older brothers are of the fluid type — excellent detergents and wetting agents. All started out in life from Houghton's organic chemical plant, and have long since paid their way by doing an excellent job.

This dry Cerfak has high detergency properties and is a fast wetting agent, too. It works well in either hard or soft water, and is usable over the full pH range. It is free-rinsing, has good dispersing properties, works fine with alkaline builders of all types.

So with a choice of four detergents, each having specific advantages for certain applications, Houghton definitely holds the edge in the field of surface active agents. What's your need for scouring or wetting out? May we recommend, and quote? E. F. HOUGHTON & CO., Philadelphia 33, and all principal cities.

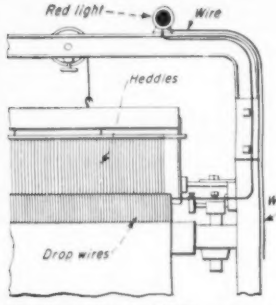
CERFAK

SYNTHETIC DETERGENTS AND WETTING AGENTS

determined by adjustable stop *f*. As the cutter moves forward with lever c, the tooth of the cutter engaged with pawl e slides along the end of e. The length of the pawl must be such that it will clear the end of the tooth at about the instant lever c is stopped by screw f. The springs bearing against the pawl will make it snap against the next tooth.

Lever c is then moved backward until it strikes adjustable stop g. During this movement, pawl e bears against the front of the cutter tooth that it has just cleared and forces the cutter to turn clockwise so that another tooth is placed in grinding position. Stop g must be adjusted so that the cutter is turned the proper distance. *(K-1110)* Harry Wignall, Leicester, England

Weaver's Signal Made From Tail Light



WEAVER'S SIGNAL LIGHT, made of an automobile tail light wired to the warp stop motion, warns of a warp break. It is also useful in locating the broken end by the flashing of the light and in recognizing a filling stop by the light not going on.

A weaver's signal light that serves a double purpose can be installed on a loom as shown in the accompanying sketch.

When a loom stops, the weaver usually loses a small amount of time in determining the source of the stop and finding the broken end. It may be a warp stop or a filling stop. The light shown in the sketch notifies the weaver at once which type of stop it is and, in the case of a warp stop, helps in locating the end. If the light goes on, a warp end is out and a drop wire is down. If the light does not go on when the loom stops, it is a filling stop.

The light used is a red tail light from an automobile. It is bolted to the loom arch and wired to the warp stop-motion switch. When a warp stop occurs and the light goes on, the weaver can run her hand along the bank of drop wires and determine where the break is by the flashing of the light. The light will go on and off as the circuit is opened and closed by the shaking of the wire that is down. *(K-1108)* Owen E. Stinnett, Jamestown, N. Y.

Warehouse Truck Improved With Casters

CASTERS attached to a frame at the rear of a two-wheel truck make it possible for an operator to move a much heavier load and move the load more easily. The frame is made of 1/4x2-in. strap iron.

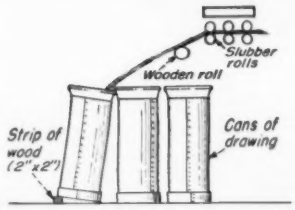
The two-wheeled warehouse truck, like the wheelbarrow, has been in service for such a long time that everyone has apparently taken it for granted as being the acme of perfection in its field.

Note the "new look" in the picture of the truck. We have added side shields to protect the worker's hands as he clears through congested areas and added furring strips or "lagging" to the side rails to insure proper clearance as the crate or box is tilted backward at loading time. Alternate yellow and black striping makes the unit noticeable when it is left in a position where it might create a traffic hazard.

The outstanding improvement, however, is the addition of the "lazy man's" attachment to the rear to make it possible for one man to move about twice the usual weight and to stop the load anywhere he desires merely by letting go of the handles. The casters on the rear frame relieve him of the necessity for supporting the load. *(K-1101)* Paul C. Ziemke, Oak Ridge, Tenn.

Tilted Drawing Cans Reduce Sliver Drag

Much of the variation in yarn weight can be traced to light roving caused by drag on the drawing as it is pulled out of the can in the slubber creel. Many mills use cans with spring bottoms that rise as the weight of drawing is reduced, in order to reduce the drag on the sliver.



VARIATION IN ROVING can be reduced by lessening the drag of drawing over the edges of the cans in the back line of a slubber creel. Tilt the cans as shown here.

A strip of wood placed on the floor, as shown in the accompanying sketch, and used when the back line of cans is about one-half empty will also reduce drag and eliminate some of the variation in roving weight.

Usually, the drawing ends from the front line of cans is led directly to the guides behind the rolls, by-passing the wooden lifting roll. If the lifting roll is used, the cans can be set back far enough toward the roll to prevent excessive drag over the edge of the can. The middle line of cans, of course, is usually directly under the lifting roll; and the sliver is subjected to no drag. It is the drawing from the back line of cans that gets most of the drag.

By tilting the cans in the back line when about half the drawing in the cans has been used, the drag over the edges of the cans is lessened. A 2x2-in. strip nailed to the floor just behind the cans will hold the cans at about the proper angle. *(K-1102)* William Shaw, Providence, R. I.

Replaces Adjusting Screw Without Gaging Parts

Replacing a broken adjusting screw in the sinker head of an old-type narrow-head Reading full-fashioned machine is a troublesome job. The usual procedure in replacing one of these screws includes the following steps:

1. Remove the welt bridges.
2. Remove the carriers (eight of them).
3. Raise the catch bar.
4. Take out the sinker head.
5. File a new screw and replace the old one with it.
6. Replace the head.
7. Gage the parts.

The method we use for replacing a broken screw is more simple, requires only a few minutes' work, and eliminates the necessity for regaging parts.

The screws, of course, must be filed

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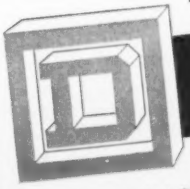

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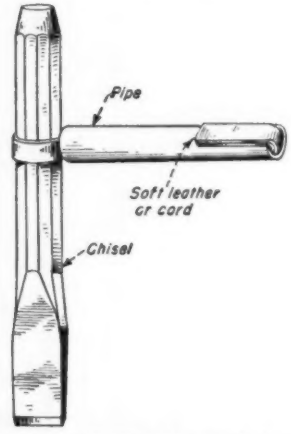
to a narrow thickness in the center so that the short-butt sinker and divider can pass while the catch bar is pushing them to the front. It will save time to have several of these screws filed and finished to the proper size on hand at all times.

When a screw breaks, proceed as follows:

1. Remove the welt bridges.
2. Take out the knock-over bar.
3. Raise the catch bar.
4. Take out the sinkers and dividers (usually five or six) around the broken-screw hole.
5. Cut off the back side of the screw head to allow the screw to go straight to the top plate of the sinker head.
6. Replace the two small jam nuts on the adjusting screw.
7. Replace sinkers and dividers.
8. Adjust screws to the proper tightness.
9. Replace knock-over bar and welt bridges.
10. Lower the catch bar, and the machine is ready to be started up.

(K-1113) Lee Morgan, Asheboro, N. C.

Safe Chisel Holder



***HOLDING A CHISEL** or heavy punch while it is being driven by a hammer is a ticklish and sometimes dangerous business, particularly if someone else is using the hammer. A length of soft leather or strong cord used as shown here is a help.*

Wrap the leather around the chisel and run both ends of the leather through a short length of ½- or 1-in. pipe. Double the ends over the other end of the pipe and hold them tightly around the chisel. (K-1093) H. E. Wenrich, Berwick, Pa.

Portable Machinist's Rack

***A MACHINIST'S RACK** that is useful when small castings are being worked is shown here. The rack is made by welding 1½-in. angle iron to form the four uprights and the rims around the shelves. The bottom shelf is heavy sheet metal and the others are heavy-duty 1-in. mesh wire. Swivel casters make the rack maneuverable.* (K-1082) The Lincoln Electric Co.

Ordinary Door Bolt Works From Either Side

A door bolt for use on folding doors that open and close on tracks is shown in the accompanying sketch. The advantage of using this bolt is that it can be slipped in or out of locking position from either side of the door.

An ordinary sliding-door bolt is used, as shown at *a*. A threaded bolt with a lengthwise flat head, shown at *b*, is screwed into a hole tapped and threaded in bolt *a*.

When the position for the door bolt is fixed, cut a vertical slot through the door so that bolt *b* can work up and down in the slot as bolt *a* is worked up and down. As shown in the sketch, the back side of the door is beveled out around the slot, and a brass fixture is fastened in the beveled space, so that the flat head of bolt *b* is countersunk in the door.

It is not necessary to countersink *b* if *a* is located at a safe height. If *a* is located at the bottom of the door, it would be best to countersink *b*.

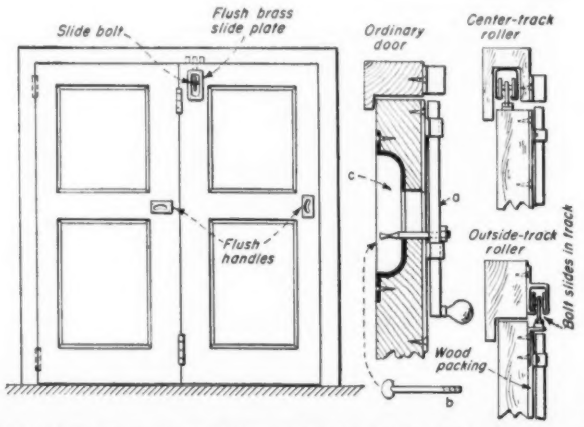
As shown in the sketch, the idea can be adapted to any common type of door. *(K-1107)* Edwin Swindells, Cheshire, England.

Tight-Selvage Defect

***A TIGHT SELVAGE** caused the crease in this cloth sample. Such wrinkles usually run through the entire cut of cloth. If the cloth is dyed, uneven shades will result. This type of defect can usually be avoided by using large spools for selvage yarns and winding the yarn on the spool under the proper tension.* (K-1104)

Soft-Thread Bolts Hold Lay End Better

Sometimes the bolts that hold the lay-end plate to the lay of a loom become loose and wear the bolt holes so much that a bolt will pull through the



***A DOOR BOLT** that can be worked from either side of a fire door is shown here. Bolt b, screwed into bolt a, extends through the door.*

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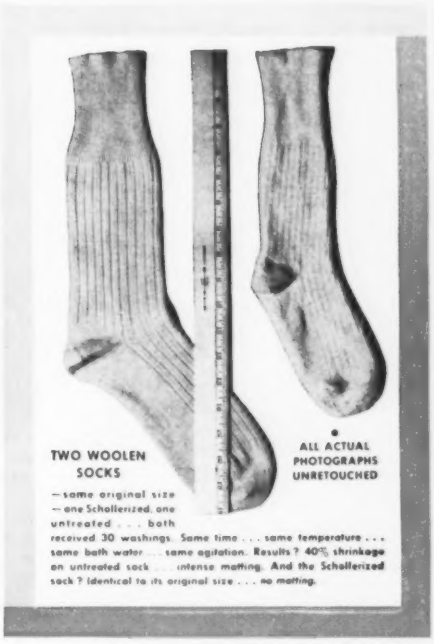

— same original size
— one Schollerized, one untreated . . . both received 30 washings. Same time . . . same temperature . . . same bath water . . . same agitation. Results? 40% shrinkage on untreated sock . . . intense matting. And the Schollerized sock? Identical to its original size . . . no matting.

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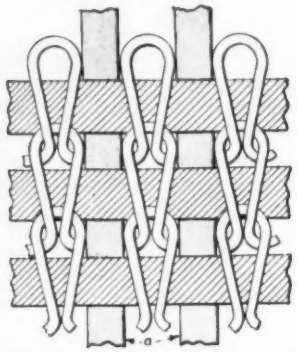
lay. This condition happens more frequently with the bolts that also support the check-strap brackets. The bolts used for this purpose have hard threads. Often, the threads are ruined; and sometimes, a lay-end plate is broken.

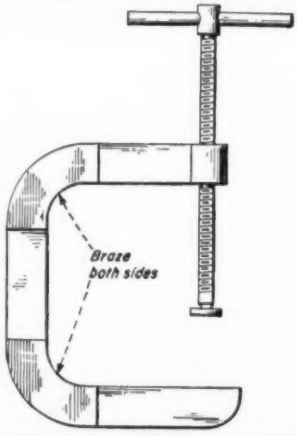
I find that the use of bolts with softer threads will save most of this damage. The bolts that hold the binder to the lay make good bolts for this use. Old bolts that break out of the lay can be cut to the required length and used as lay-end bolts. They have slightly larger heads than the standard lay-end bolts and are not so prone to work loose. *(K-1106) Arnold N. Carter, Henderson, N. C.*

Vertical Inlaid Fabric



THIS NOVELTY KNITTED FABRIC can be produced on a small single-bed flat-bar machine. From the back, it looks like a woven fabric. If rubber is used for vertical threads a and the fabric is knitted in narrow widths, it is suitable for use as the elastic waistband of swim trunks, etc. (K-1111) Harry Wignall, Leicester, England.

C Clamps Reinforced



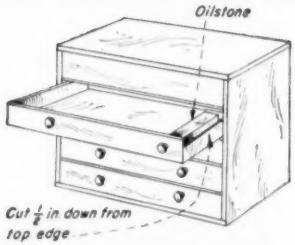
CAST-IRON C CLAMPS are easy to break. One way to reinforce them so that they break less easily is to fill in the angles of the two bends with brazing rod. The brazing places more metal at the two points that break and makes the clamp stronger and more useful. (K-1080) The Lincoln Electric Co.

Dusting Loom Brake Bands

One of the best methods to clean excessive oil from loom brake bands is to dust a small amount of Fuller's earth on the band while the loom is in motion. On some looms, the brake band is set so close to the loom side that dusting cannot be done while the loom is in motion.

If a tall bottle of small diameter is cleaned and dried, it can be filled with the fine powder and used on nearly any loom without danger. Use the regular bottle top and punch a small hole in it to permit the powder to be shaken out. Usually, only a small amount of Fuller's earth is required. *(K-1089) H. E. Wenrich, Berwick, Pa.*

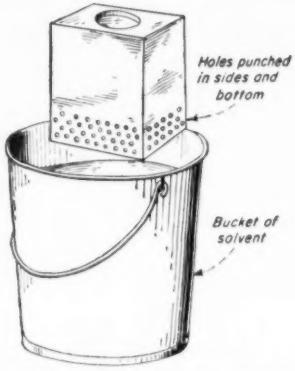
Whetrock Glued in Drawer



AN OILSTONE WHETROCK, placed in a fixed position inside the tool-box drawer, is handy for sharpening pocket knives and chisels. As shown in the sketch, cut down the side of the box drawer approximately ½ in. below the edge. Place the oilstone and glue it down so that it is flush with top edge of the drawer.

It may be necessary to raise the height of the stone by building up under it with felt or wood. As the oilstone gradually gears low, raise the top edge of it as necessary by building up with additional felt or wood. (K-1091)

Wash Small Parts In a Perforated Can



SMALL MACHINE PARTS can be quickly washed in a cleaning solvent by the use of a discarded oil can or tint can as shown in the sketch. The use of the can makes it unnecessary to drop the parts in large containers and risk possible loss.

Punch small holes in the bottom and around the sides of the can. Place the machine parts in the can and swish the can in a pail of cleaning solvent. After a good washing in this manner to remove grease, strains, or sizing solutions, dump the parts out of the can onto a clean, dry cloth. (K-1092)

Loose-Mark Defect

THIS LOOSE MARK was caused by a broken reed base. There are two ways to prevent this type of defect. The first method is to replace worn reed bolts and nuts and use good reed springs. The other method, which is the better method, is to discard the wooden reed base and build one of metal. (K-1109)

Bench-Grinder Guard

Some shops occasionally make use of larger grinding stones than the grinder guard will accommodate, and it is necessary to remove the guard until the stone has worn down. In

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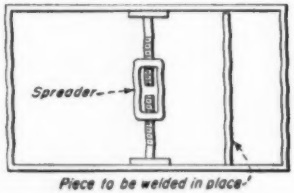
other cases, a grinder guard may not be available.

Grinding without this safety feature is a hazard to personal safety, even with use of goggles. A guard can be made by cutting out the bottom section of a round grease can. Cut the can section with snips to the required shape and fasten it to the bench or the motor-head bolts. *(K-1094).*

Homemade Spreading Tool



***A SPREADER** that can be put to many uses around a mill shop is shown here. For such uses as straightening the sides of a doff box or holding a horizontal assembly for welding, place the spreader in the position shown and turn the turnbuckle.*

If pressure toward the inside is needed occasionally, square jaws could be made so that the tool could be used to push or pull. (K-1081)

Sheet-Metal Plate Keeps Cotton From Falling

***AIR SUCTION** in the vertical duct was increased near the cotton at the end of the blending-feeder apron to prevent heavy wads of cotton from falling to the floor. Only the sheet-metal plate was needed.*

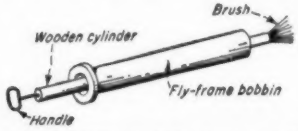
We recently installed new opening-room machinery for processing compressed cotton. The set-up starts with a line of blending feeders, which deliver opened stock to a horizontal conveyor apron. From the apron, the cotton is taken by suction through a duct to an overhead condenser and on to other cleaning machines.

When the machinery was installed, we found that the compressed cotton was not sufficiently opened by the blending feeders to make all of it light enough to respond to the suction at the end of the apron. When a heavy wad of cotton reached the end of the apron, it fell to the floor instead of being taken up by the suction. Lighter wads of cotton, of course, went on up the duct as they were supposed to do.

We corrected this fault by installing a sheet-metal plate at the end of the duct as shown in the accompanying photograph. The plate closed up part of the duct opening and made the air suction stronger near the cotton.

The plate was cut and shaped in the mill shop. It is attached to the duct and apron rails as shown. (K-1077) Ralph L. Taylor, Columbus, Ga.

Roller-Beam Brush



***ROLLER BEAMS** on spinning frames and fly frames can be cleaned easily and quickly with a brush similar to the one shown here. The bristles are attached to the end of a wooden rod that will slide easily inside of a fly-frame roving bobbin.*

The operator holds the bobbin with one hand and guides the cleaning brush while she works the brush with the other hand. (K-1105)

Steel-Rule Markings Filled With Paint

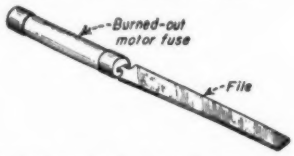
Steel rules, gages, squares, etc. rust easily; and often the rust becomes so bad that it is impossible to distinguish the markings. This condition can be corrected by the following method:

Remove the rust, grease, dirt, etc. with a mild abrasive agent. Steel wool, very fine emery cloth, powdered pumice, or Old Dutch Cleanser sprinkled on a rag dampened with kerosene will do the work.

When the rust has been removed, clean the markings with a stiff brush (a discarded tooth brush is all right) and wipe the metal with a cloth wet with turpentine until the metal is clean.

Let the metal dry thoroughly, and apply a mixture of paste white lead and hard-drying varnish to the markings. When the mixture is about ready to become set, wipe excessive paint from the metal with a clean cloth. Be careful to wipe across the markings so that the lead-and-varnish mixture will not be wiped off. (K-1064) National Lead Co.

Small File Handle Made From Motor Fuse



***A FILE WITHOUT A HANDLE** is not only dangerous, but in some states it is illegal to use one. In states where this practice is illegal, the employer usually furnishes the fixers and other mechanics with file handles. But it is seldom that there is a handle for each file in the mechanic's possession.*

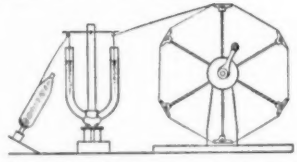
To avoid the necessity for changing a handle from one file to another, he usually makes handles from discarded temple rolls, reed-hook handles, etc. The writer uses burned-out motor fuses, punching a hole in the lead at one end and forcing the stem of the file into this hole. (K-1001)

Keep Extra Dobby Cord Sets

Making quicker dobby mount replacements can be done if several extra sets of mount wires, cord, and cable or leather combinations are kept on hand. The practice of being prepared for nearly any break and having the extra parts already assembled often is the reason why some fixers constantly keep the efficiency of their sections high.

To make several complete dobby sets, secure the necessary parts and assemble the jack eye, mount wire and cable, and grease wearing connections. Tie the cable cord to the correct length and allow length for adjusting it. When a jack eye, mount wire, or even a cord breaks, it is easier and quicker to place on a new assembly than to replace the part. If parts of the broken set are still serviceable, replace the broken parts and place the assembly in your stockpile. *(K-1095) H. E. Wenrich, Berwick, Pa.*

Glass Tube at Reel Applies Cold Dye Liquor



***COLD DYE LIQUOR** can be applied to sample yarn at the wrapping reel by means of a U-shaped glass tube as shown here. Mount the tube to the table or frame on which the reel and bobbin holder are mounted, with the tube between the supply bobbin and the reel. Fit pigtail guides above each leg of the tube to guide yarn in and out of the tube. (K-1005) P. Laming, Sterlingshire, Scotland*

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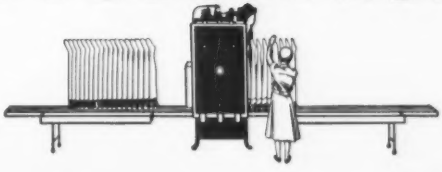


Round Table

FOR EXCHANGE OF IDEAS—*The Round Table is open to letters from any and all readers discussing subjects relating to mill management, production, engineering, technology, etc. Names of contributors will be held confidential if so requested, but contributions must be signed with real name and address as evidence of good faith and to permit payment for items published. Address contributions to: Editor Round Table,* TEXTILE WORLD, *330 West 42nd St., New York 18, N. Y.*

Fire Prevention Cuts Cotton Fire Losses

Fire hazards are greatest in the opening and picker rooms because of the nature of the operations and the condition of the stock received. Baled cotton often contains foreign matter of a metallic nature. Every iron or steel article is a potential fire hazard if not removed before processing.

One large Northern mill had a series of bad fires in the opening room. All of these fires were traced to metallic matter in the cotton. An intensive program was started to inspect all bales opened. In a period of three months, 169 pieces of metal and other foreign matter were picked from the cotton. These articles varied from bale buckles and gin parts to a section of barbed-wire fence.

Feeding cotton from bales in thin layers will aid greatly in detecting and removing the heavier articles. Traps, pockets, and gaps can be arranged between feed tables and conveyor pipes. These will not interfere with the passage of the cotton but will permit heavier metallic articles to fall out. A wise use and correct placing of these traps will greatly reduce fires.

Magnetic traps of various kinds are being used quite generally and are effective, when properly installed and maintained, in removing certain kinds of foreign matter from stock. They will not remove non-ferrous matter. One recent vertical-opener fire was caused by a piece of wood that contained several nails. These nails were not exposed enough to permit action of a magnetic trap upon them. A case of damage to picker parts caused by a spinner's brass hook in the stock shows another type of foreign material that can easily get by a magnetic trap. A simple gravity trap used in conjunction with magnetic traps will take care of most foreign matter.

Reworkable waste is another frequent cause of fires in waste machines and feeders. Reworkable waste of any kind should never be fed directly into the hopper of feeder from the box in which it is delivered. A slatted platform should be attached to the outside of hopper, and waste should be first placed on this platform and shaken around thoroughly by hand to permit all heavy articles to drop between the slats to the floor.

Baled card strips and comber noils received from outside sources should not be fed directly from the bale. Bales should be opened and spread around as great a floor area as available and poked around with sticks or kicked around with the feet. This will loosen up foreign matter and separate it from the stock.

Many fires on pickers, cards, drawing, roving, and spinning frames are caused by improper lubrication or by the rolling of the stock around rolls or shafts. A close check on lubrication-schedule enforcement and cleaning schedules will prevent many of these fires.

Faulty electrical equipment or connections can be blamed for a large number of fires. Great care should be used wherever extension cords of any kind are used. The prevention of lint collection in control, switch, or fuse boxes will remove one frequent cause of fires.

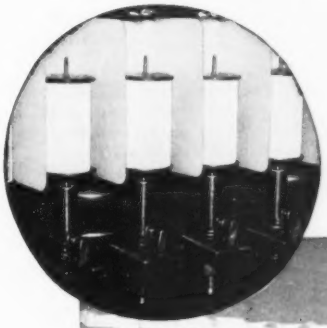
Extinguishers of the proper size and type should be placed in prominent positions and in sufficient numbers. The large soda types have been found very effective in cotton fires. Pyrene non-conducting liquid is recommended for electrical equipment fires. Small

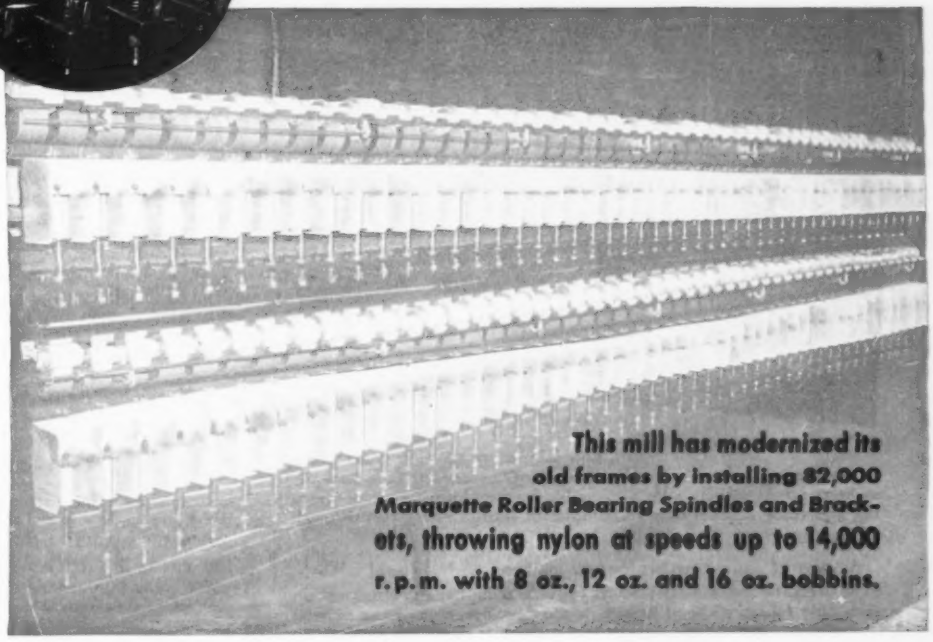
TEXTILE TICKLES . . . . . By Edgar Allen, Jr.

"I'm afraid she still has a bit to learn about the textile industry!"

Marquette ROLLER BEARING SPINDLES *with* FULL-FLOATING FOOTSTEP BEARING

For Cotton, Rayon, Nylon, Wool, Worsted





This mill has modernized its old frames by installing 82,000 Marquette Roller Bearing Spindles and Brackets, throwing nylon at speeds up to 14,000 r.p.m. with 8 oz., 12 oz. and 16 oz. bobbins.

By modernizing your old frames with Marquette Roller Bearing Spindles, you too can increase production by operating at higher speeds. Marquette Roller Bearing Spindles can be obtained by all frame builders. Ask our nearest sales office for illustrated catalog, or write direct.

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WILLIAM P. RUSSELL, BOX 779, ATLANTA, GA. • JOHN J. HALLISSY, 59 LIVINGSTON AVE., LOWELL, MASS.
IAN N. HALDANE & COMPANY, P. O. BOX 54, LONDON, ONT.

ATLAS
LAUNDER-OMETERS
and FADE-OMETERS

...in the new
Riegel
Laboratory

. . . used for quality control, development and testing of products and processes

In the modern, new laboratory recently constructed by the Riegel Textile Corp., Atlas Launder-Ometers and Fade-Ometers make constant quality control possible by providing accurate washing and color fastness data on samples of fabrics being run through production lines.

As part of the research program inaugurated by Riegel officials, these Atlas-Ometers help also to provide complete information on each new fabric while it is still in the developmental stage as well as to maintain the high standard of quality in daily production. In this manner, Riegel avoids costly trial and error methods still practiced in some textile plants today.

Technicians at this laboratory conduct washing tests of the A. A. T. C. C. in the Launder-Ometer to determine the fabric's resistance to shrinking, its color fastness, and resistance to washing and mechanical action. The Fade-Ometer is used to obtain factual data regarding the degree of fading registered on the sample by sunlight, temperature, and humidity. The Atlas cycle timer unit can be set to duplicate any test at any time.

New research model Launder-Ometers with capacities ranging from 20 pint jars to 6 half-gallon containers are now available as part of the complete line of standard Launder-Ometers.

ATLAS ELECTRIC DEVICES COMPANY

361 W. Superior St., Chicago 10, Ill.

Round Table

(Continued)

hose should be handy for picker fires but should only be used when the fire is too serious to be taken care of with extinguishers. Periodical inspection of all hose, connections, water supply, sprinklers, and extinguishers is a necessary safeguard.

Water applied with hand brushes from pails of water is an effective way to extinguish fires in hard-to-get-at places around rolls, gears, shafts, and bearings, especially on roving-frame bobbin and spindle shafts.

Water damage is often greater than fire damage. Means should be provided to shut off the section of sprinklers quickly when the fire danger is past. One responsible person in each department should be thoroughly familiar with the location and operation of all sectional shut-off and drain valves. Strict instructions must be given that only in the case of fire emergency shall these valves be touched or tampered with in any manner.

Blankets in sufficient numbers and so placed to be easily and quickly accessible should be provided. Card wire is easily damaged by water, and a sufficient number of water-proof blankets should be available on each section of cards, so as to be placed quickly over cards to prevent any possible water damage. *(R-467.)*

Leadership Requires Broad Knowledge

The editorial in the March issue [Let's Interlock Knowledge, Too!] leads into the whole problem of what constitutes leadership and presents the reason why even in a technical school like ours, or in a technical journal like yours, we cannot confine ourselves to technological pursuits. Many outstanding executives in industry and education have been saying over and over that the production of leaders or the promotion of leadership qualities is the central problem of our times.

Your editorial deals with a part of this problem, the improvement of communication and the development of broad understandings. There is much more. The bases of the problem are too philosophical to go into deeply here. *(R-469, Bertrand W. Hayward, Director, Philadelphia Textile Institute, Philadelphia, Pa.)*

Woolen Card Shows Fiber Preference

Sources of fiber variation in wool blends are frequently obscure. In a colored blend, this can show up as

GOLF CLUBS
"Merchandised" in H & D Shipping Boxes

"We now pack three sets of clubs in the time formerly required for one," says a prominent golf club manufacturer. "This box not only makes an outstanding display, it also helps boost sales," says the golf professional who handles the merchandise. Compact, sturdy, easily assembled, attractively designed, this H & D box is engineered to save money for the manufacturer, to make money for his dealers. It scores high on both counts.

DUAL-PURPOSE BOX
Increases Product Utility

One might think of a camp stove as an unwieldy piece of equipment—but not this one. It folds up neatly and compactly in a sturdy H & D box, designed especially to withstand the rigors of camp life. Box and stove take up little space in the camper's car; snug fit prevents rattle; convenient handle makes it easy to carry. This H & D packaging idea—of increasing the value of a product by making it easier to use—is virtually without limit in application possibilities.

Add Sales Punch WITH GOOD PACKAGING!

THIS SHELF PACKAGE
Simplifies the Retailer's Job

The "Eskimo" kitchen mechanic, a modern idea in electrical appliances, takes full advantage of Prepak*—a new idea in packaging. No packing or wrapping at point-of-sale is required. Attractively printed on sand color linen background, the "Eskimo" package invites "take with" purchases, another saving for the dealer. In the home, the box provides safe storage and protection for the life of the mixer.

*REG. U. S. PAT. OFF.

H&D

BOXES

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$5.07 saved a contract ...and a man's business

Special switches were needed to complete an electrical instrument contract. Late delivery of finished items would kill chances of future orders and lay off men. Switches were 1100 miles away, but Air Express delivered the 15-lb. package at 3 A.M. — 8 hours after pick-up. Cost, only $5.07. Air Express now used regularly. Keeps down inventory, improves customer service by early delivery.

Low as $5.07 was, remember Air Express rate *included* door-to-door service, receipt for shipment and more protection. It's the world's fastest shipping service that *every* business uses with profit.

World's finest Scheduled Airline fleet carries Air Express. 24-hour service — speeds up to 5 miles a minute. Direct to over 1000 airport cities; air-rail for 22,000 off-airline offices.

FACTS on low Air Express rates:

17-lb. carton of hearing aids goes 900 miles for $4.70.
12 lbs. of table delicacies goes 600 miles for $2.53.
(Same day delivery in both cases if you *ship early.*)

Only Air Express gives you all these advantages: Special pick-up and delivery *at no extra cost. You get a receipt for every shipment* and delivery is proved by signature of consignee. One-carrier responsibility. Assured protection, too—valuation coverage up to $50 without extra charge. Practically no limitation on size or weight. For fast shipping action, phone Air Express Division, Railway Express Agency. And specify "Air Express delivery" on orders.

SPECIFY AIR EXPRESS
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Rates include special pick-up and delivery door to door in principal towns and cities

AIR EXPRESS, A SERVICE OF RAILWAY EXPRESS AGENCY AND THE
SCHEDULED AIRLINES OF THE U.S.

Round Table

(Continued)

slight irregularities in shade. In white blends, where more than one quality is used, there may be some difference in shrinkage rates.

Interesting experiments on new lines have recently been conducted by Dr. P. P. Townend, F.T.I., of Leeds University, to show what sorting the card might perform when fibers of dissimilar lengths and fineness are blended together. For the experiment, four lots of fibers were taken, long fine (dyed red) and short fine (dyed blue), long coarse (dyed green) and short coarse (dyed yellow). The fibers were blended 50/50 as follows:—

1. Short fine and short coarse.
2. Short fine and long coarse.
3. Short coarse and long coarse.
4. Long fine and short coarse.
5. Long fine and long coarse.
6. Long fine and short fine.

By running the blends on to an empty machine until a stable shade is obtained and then disconnecting the feed rollers, samples can be taken during the running-on period and the running-off period; and by examining the shade obtained, the card's preference can be found. Dr. Townend found that there was a tendency for the card to pass forward more of the short fibers and retain more of the longer fibers when long and short fibers of the same fiber diameter were blended together. With the same fiber lengths, there is a tendency for the finer fibers to be retained by the card and for the coarser fibers to be passed forward. With short, fine fibers and long, coarse fibers, there is little or no selective action.

These results are interesting, particularly when one considers that the input of the card is likely to vary. For example, should there be a hopper-weight miss, the selective action of the card would operate, perhaps to a lesser degree but possibly sufficient to cause a noticeable shade difference by the time the yarn is woven and finished. (*R-468, England*)

Your Humidity Tests Should Be Accurate

In textile mills in which relative humidity has an influence on the running qualities of the stock, a wet and dry bulb psychrometer is generally used to determine the percentage of relative humidity in the atmosphere. Even when automatic controls are used on

MANUFACTURERS' BULLETINS

A REVIEW of the month's outstanding trade literature. Items are listed one month only—no repeats.

Free FOR THE ASKING

1. "The Saga of the Ring Traveler," Part II, has been prepared by National Ring Traveler Co. History and manufacture are skillfully blended with technical data.

2. Textile painting problems are discussed at length in an excellent book published by Gilman Paint & Varnish Co. The book is entitled "A Guide to Maintenance Painting for Factories, Mills, and Villages."

3. Baskets, hampers, and trucks for textile mills are described in a booklet issued by C. K. Daniels, Inc. Other canvas-duck products for shipping and handling are also featured.

4. A "fasten-ating" book on industrial fastening has been issued by Bostitch. The book is filled with case histories of customer experiences.

5. An automatic quill polisher for refinishing loom bobbins is the subject of a folder issued by J. M. Nash Co. Specifications are enlarged upon with pictures.

6. Switchgear and control devices are described and illustrated in a 16-page guide released by Allis-Chalmers Mfg. Co. Types and ratings are supplemented with photographs and diagrams.

7. Ball-bearing types and fundamentals of mounting are covered in a catalog prepared by New Departure. The publication reads like a good textbook on the subject.

8. Resorcinol—its properties and uses—is the subject of a technical bulletin issued by Koppers Co. It is used in the production of several textile chemicals.

9. Blending systems, preparatory equipment, automatic feeds, metallic wire cards, waste machinery, and an automatic batt-making system are all described in a bulletin available from Proctor & Schwartz, Inc.

10. Users of "Flatlock" machines will be interested in an instruction book and parts list available from the manufacturer, Willcox & Gibbs Sewing Machine Co.

11. Aluminum piping, flanges, and welding fittings are described in a folder published by Tube Turns, Inc. A page is devoted to methods of welding aluminum pipe.

12. The ring doubling frame is featured in a booklet prepared by Platt Bros., Ltd. Production data is given along with a simplified machine sketch.

13. Loom-beam and warper-beam heads for high-speed work are described in a folder from Hubbard Spool Co. Construction data are included.

14. Cable connections for electric welding are described in a 12-page catalog available from Tweco Products Co. Information on maintenance and care of such equipment is also given.

15. Starch-cooking apparatus for backfill is featured in a folder issued by The Girdler Corp. Both single- and double-roller machines are described, as is a duplex-piston pump.

16. Five reasons why their engineers created the Electrofluid drive are listed in a bulletin prepared by Link Belt Co. One section lists places where the unit can be used most effectively.

17. Do you need more storage space? You may get some ideas for more effective use of existing area from a catalog issued by Barrett-Cravens Co.

18. Folders on warp sizing, finishing, and printing have been prepared by National Starch Products. Uses of their products in each of the three operations are outlined.

19. A light-duty belt conveyor which is of the roller-bed type is described in a bulletin issued by Island Equipment Corp. Overhead, floor, and table types are pictured.

20. Weight control is the subject of a folder issued by Toledo Scale Co. Several textile applications are cited.

21. A synthetic-fiber blending unit is pictured and discussed in a recent folder from Lummus Cotton Gin Co. The mechanism of a bale-mixing feeder is shown.

22. Controlled humidification with its steam humidifiers is described in a booklet issued by Armstrong Machine Works. Prevention of dry-air damage to textiles is cited as an advantage of the system.

MILL EXECUTIVES may secure copies of literature reviewed on these pages by using the post cards below. Fill out COMPLETELY one coupon for each piece wanted.

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330 WEST 42nd STREET

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McGraw-Hill Publishing Co., Inc.

23. Ball-bearing top rolls for spinning and roving can pay for themselves in savings, according to a bulletin from Machinecraft, Inc.

24. How is your weave-room efficiency? Increases of 3 to 5% are claimed as possible in a bulletin on cotton slashing issued by Brown Instrument Co.

25. Boiler foaming is the subject of a technical bulletin issued by E. F. Drew & Co., Inc. The bulletin deals with chemical, not mechanical, causes.

26. "Pricing Policies in the Alkali Industry" is the title of a booklet issued by Wyandotte Chemicals Corp. It is a statement by one of their vice-presidents before the Senate Trade Policies Committee.

27. Dyeing yarn in packages and on beams is described in an excellent booklet prepared by Smith, Drum & Co. Several types of machinery and accessories are featured in the 18-page catalog.

28. High-speed shuttles for high-speed looms are featured in a bulletin published by Steel Heddle Mfg. Co. Shuttles for Draper looms XL and X-2 are described.

29. "The Colonel" from Georgia is the subject of a bulletin issued by Odom Machine Mfg. Corp. The Type B Comb Box, called "The Colonel," is described, and its specifications are given.

30. Automatic lubrication in a sewing machine is cited as an example of modern progress in a bulletin published by Bijur Lubricating Corp.

31. Winding machines are featured in a bulletin available from Universal Winding Co. This bulletin, Part I, consists of 60 pages devoted to the No. 50 machine.

32. Triple-pole rectangular magnets for prevention of tramp-iron damage are discussed in a catalog from Dings Magnetic Separator Co.

33. A streamlined tenter incorporating an advanced driving mechanism is described in a folder issued by Winsor & Jerauld Mfg. Co. Improvements over older models are listed.

34. Do you know what "Liquon" is? A bulletin from Liquid Conditioning Corp. describes this water conditioner and the organization behind the product.

35. A denting machine with an electric motor is described in a bulletin from Uster Corp. Warp widths and electric currents required are also listed.

36. Continuous bleaching for open-width handling of cotton goods is featured in a recent issue of "Proctor Progress," a publication of Proctor & Schwartz, Inc.

37. A sewing machine for butt-seams is described in a bulletin available from Birch Bros., Inc. Details of the flat-chain-stitching unit are given along with two views of the machine.

38. Floor trucks—their construction and specifications—are featured in a bulletin prepared by The Rapids-Standard Co. Carrying capacities, weights, platform sizes, and model numbers are listed.

39. How to modernize old motors at a fraction of the cost of new motors is described in a leaflet from Precision Gear & Machine Co. Ball-bearing motor cartridges are claimed to run cooler.

40. "Sinbad the sailor was an expert on rope," say Haskell-Dawes Machine Co., Inc., in a folder which describes their rope-making machinery. Twisters, ropers, layers, and bunchers are discussed.

41. A pivoted-motor drive which controls belt tension under all operating conditions is featured in a catalog issued by Rockwood Mfg. Co., Inc. There is a special section on textile machinery.

42. Bramwell feeders of modern design for use on woolen-card feeds, worsted-card feeds, garnett feeds, and other applications are sketched in a folder prepared by Geo. S. Harwood & Son.

43. A recording viscosimeter capable of increasing—at constant rate—the temperature of the suspension under test is described in a bulletin issued by Brabender Corp.

44. Pneumatic tools for cleaning textile-mill machinery are described in a folder available from Keller Tool Co. Roll pickers, roll scrubbers, and bolster cleaners are included.

45. A moisture-measuring instrument for loose, compressible materials is featured in a bulletin issued by Moisture Register Co. The unit is especially for scoured wool, combed wool, wool yarns, wool blankets, and bulk cotton.

46. "Humidity—Its Necessity and How To Obtain It" is the title of a booklet from Walton Laboratories. Home and office units are emphasized.

47. Shrink-resistant wool by the "Harriset" process is discussed in a booklet issued by The Barre Wool Combing Co., Ltd. Washability, bleaching, and dyeing information is given.

48. Swivel joints for use on all types of hydraulic machines are pictured and described in a folder issued by Harco Mfg. Co. Means for providing 360° swivel movement are shown.

49. Is it rayon or estron? What are the properties of each? The answers can be found in an informative booklet prepared by Tennessee Eastman Corp. The text is profusely illustrated.

50. "Tomorrow's lift truck today" is the slogan of a catalog describing a 4,000-lb. industrial lift truck on pneumatic tires made by Hyster Co.

TO GET MORE INFORMATION

1. Fill out completely one *space* (name, title, company, address, and item number) *for each bulletin* wanted. Put only one number in each square.

2. Use only bottom card if ordering one to four pieces, both cards if ordering five to eight.

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TEXTILE WORLD, New York, N. Y. (May, 1949)

Round Table

(Continued)

humidification systems, this type of psychrometer is used to check the controls. And so, one might say, in the majority of mills it is the final authority in determining the relative humidity.

It is, therefore, very important that this instrument be used correctly to assure accurate results. When making tests with wet and dry bulb psychrometers, the three following points should be kept in mind:

1. Is the wick in proper condition? It is possible for wick to become contaminated with dirt or grease; and if tap water is used to moisten the wick, the natural salts in the water cause a hardening of the wick which prevents proper moistening. This hardening is eliminated if distilled water is used. But to be sure the wick is always in proper condition, a length of wicking can be kept in stock, and the wick can be renewed periodically.
2. The rate of air-flow past the wet bulb is important. Most tables used with these psychrometers are based on an air velocity of 600 ft. per min. This speed is difficult to judge. In the case of sling psychrometers, if they are twirled at a reasonably fast pace 50 to 60 sec. the resultant readings will be quite accurate.
3. The temperature of the water feeding the wet bulb has a bearing on the results. For practical purposes water at room temperature should be used.

These are the steps that we take to assure ourselves of the accuracy of our humidity controls. I would be interested in learning what other mills are doing in this connection. *(R-470, E. M. Paul, Huntingdon, Quebec.)*

Mussed Nylon Ends Cause Trouble

Mussed nylon ends can be prevented by careful operation and good supervision. They may be caused by the carelessness of the cone-winding operator. Sometimes, breakage of one or several ends in throwing may be the cause, and this usually occurs when the wrong type or size of flyer is used. The fixer should check the flyer to see whether it is cut or worn. When the center part of the flyer is worn, it should be replaced. Worn, rough-edged, or wrong-type bobbins also should be caught by the operators before damage is done to the nylon yarn. *(R-457, Philadelphia, Pa.)*

Clean PIPE CUTS Fast

RIDGID Cutter . . . takes the hard work out of pipe cutting

● Efficiency-balanced for extra ease of work, RIDGID Cutter is a natural for fast clean cutting of all kinds of pipe and conduit. Special malleable frame won't warp — one-piece thin-blade tool-steel cutter wheels always track perfectly, leave practically no burr. Every cutter factory-tested. Your choice of 5 sizes to 6" pipe; also 4-wheel short handle cutters to 4" for tight quarters. For speedy cutting with least effort . . . buy RIDGID Cutters at your Supply House.

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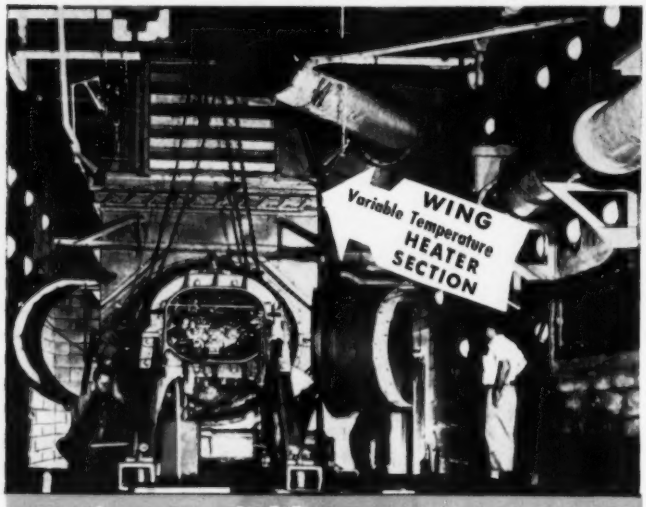
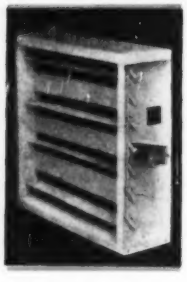
THE RIDGE TOOL CO. • ELYRIA, OHIO

Wing Variable Temperature Heater Section installed in Sandard Oil (N. J.) Test Laboratory



Wing Variable Temperature Heater Sections will not freeze



Write for a copy of Bulletin HS-3

Damage by freezing cannot happen to a Wing Variable Temperature Heater Section even when the entering air is at a very low temperature, because the heating element is always under full steam pressure. Temperature control is achieved automatically or manually by changing damper position, not by reducing steam pressure.

Wing Variable Temperature Heater Sections are used for fresh air supply, for replacing exhausted air, for ventilation plus heating and for drying and process work.

L. J. Wing Mfg. Co. 138 West 14th Street, New York 11, N. Y.

Factories: Newark, N. J., and Montreal, Canada

Wing

Featherfin HEATER SECTIONS

Questions AND Answers

Ammonium Compounds Used as Softening Agents

Technical Editor:

What are the uses in the textile industry for quaternary ammonium compounds? Can you give me some idea of the prices of such compounds? (9299)

Quaternary ammonium compounds are best known and most widely used as softening agents, particularly in the softening of synthetic fibers. Cationic softeners are quaternary fatty amines; they are well known and their use is generally accepted. Such agents are commonly employed as plasticizers in synthetic-resin mixes. Treatment of direct-dyed fabrics, particularly rayons, with such products results in increased fastness of washing. They often impair the light fastness of such colors, and careful color selection is necessary.

They are also used in dyeing, where they seem to act as retarding agents and level out dye combinations where the dyestuffs themselves do not have the same degrees of exhaustion or affinity for the particular fiber concerned. When they are used in large quantities, their retarding action is so great that certain ones act as stripping assistants, since the use of a quaternary fatty amine in the stripping bath tends to hold the color off the fabric and make it relatively easy to remove color from a fabric already dyed.

It is difficult to give precise information regarding prices, since these materials are offered in different strengths and are not the same chemically. Generally, they sell in the price range of 25¢ to 50¢ per lb.

Dried Eggs Still Used For Binding Pigments

Technical Editor:

What are the uses, if any, of egg albumen (dried eggs) in the textile industry? We are primarily interested in a technical-grade, flake-type product but would appreciate any relative information. (9298)

Egg albumen is used primarily by the printing division of the textile in-

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AT 350° F FOR 30 SECONDS

Concental meets your most exacting requirements for a softener, stable under all temperatures in high speed cotton and rayon finishing operations. Yet scorch resistance is only one of the many outstanding qualities of this versatile, highly concentrated softener.

CONCENTAL is efficient and economical. 50 parts replaces 100 parts of ordinary low concentration softeners.

CONCENTAL is compatible with starches, gums and resins.

CONCENTAL is stable in aqueous stock solutions and in the presence of organic acids.

CONCENTAL does not affect absorbancy and does not develop odors at high temperatures.

For softening cotton and rayon fabrics . . . for back filling and as a component in warp size mixes . . . for finishing goods to be pre-shrunk and for pure finishes . . . *use Concental.*

Write for additional information concerning the use of Concental.

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No gummy residues, no tears or holes in cloth, no wasted material when tabbing's done with "SCOTCH" Textile Tape No. 916. There are many additional operations where "SCOTCH" Textile Tapes can do a better job for you. Have one of our sales engineers call to show you how these pressure-sensitive tapes can save you money on such operations as warping, slashing, leasing.
A card to us will bring you complete information on these tapes designed especially for the textile industry—or will bring our sales engineer if you ask. No obligation. Write Dept. TW5.

Quick facts about "SCOTCH" Textile Tape No. 916

- **FAST**—on with finger-pressure, no special equipment needed.
- **NEAT**—requires no glue, moistening, or solvents.
- **STRONG**—high tensile and adhesive strength assure proper holding.
- **STRETCHY**—tape permits "give" without loosening—even though fabric contracts on the roll.
- **ECONOMICAL**—helps to eliminate waste on end laps, saves labor time.

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Questions and Answers

(Continued)

dustry, with such materials as bleached-blood albumen, casein, and, more recently, some of the water-soluble types of thermo-setting resins.

These materials are used mostly in the production of discharge whites on dyed grounds. It is common practice, when a pattern is discharged to a white, to add various amounts of white pigment, such as zinc oxide, lithopone, and titanium dioxide to improve the clarity of the white discharge. Since these materials are pigments, they can be washed out easily unless a binder is used. All of the materials mentioned are suitable for binding pigments.

Years ago, there was a considerable amount of flock and metallic printing done; and egg albumen was used in large quantities. Cotton flock and finely ground metals are still printed on fabrics, but this type of printing has become rather specialized, and such yardages are not run in the large quantities that they were at one time. However, there is still a steady demand for binders such as egg albumen.

Wetting Out Dyed Goods Causes Bad Crease Marks

Technical Editor:

We are having trouble with viscose-acetate crepe fabric developing dye breaks when it is re-dyed from a light to a dark shade. Can you tell us what could cause these breaks and also how they can be removed after they develop? (9300)

No doubt the viscose-acetate crepe is either of the romaine or the alpaca type. Both of these fabrics are extremely wide in the gray. They are usually boiled off in a Henneken boil-off machine or in some other type of machine in which the goods are allowed to be open and yet relaxed. The goods shrink considerably in width; when they arrive at the dye box for the first dyeing, they are possibly only about 32 or 33 in. wide, from a gray of possibly 45 or 48 in. When the goods are finished, they are framed out to about 38 in. If the goods are put back in the dye box, they will shrink back to their original boiled-off width of around 32 in. and form cracks. This always happens unless precautions are taken.

The only precautions you need to take are as follows: Wet out the goods again in an open and relaxed form and pass them over a drum and onto a traveling apron with hot water (around 160° F.). As the goods come out, they should be sprayed with cold water so that they will plait down into a box comparatively cool. They may then be carried to the dye box and

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The buyers' frantic search for goods in short supply is over! Now, more than ever, it is time to use creative talents again.

As a textile man you know that creative textile designing and new constructions have always offered the greatest opportunities. Today, for the first time since the war, the market is building up a head of steam to make things that have greater promotional values. It's time now to think beyond standard construction and devise different, new and improved products. Buyers are looking for sound merchandise, well styled, with genuine advantages and priced right.

So, consider the characteristics in Fiberglas* yarns. Improved techniques have made them more versatile than ever before. For example, Coronizing the greige goods, which anneals, relaxes and crimps the yarn, imparts performance features never thought possible with glass fibers. Here are positive values that lend themselves to the creation of many end products with new selling punch. Here is opportunity for the taking.

Owens-Corning Fiberglas welcomes, as always, the opportunity to work with you in your mills—or through our textile laboratory where men, skilled in the art of making better products through research, are at your service—on a confidential basis of course. Write or 'phone Owens-Corning Fiberglas Corporation, Textile Products Division, 16 East 56th Street, New York 22, N. Y.

In Canada: Fiberglas Canada Ltd., Toronto, Ontario.

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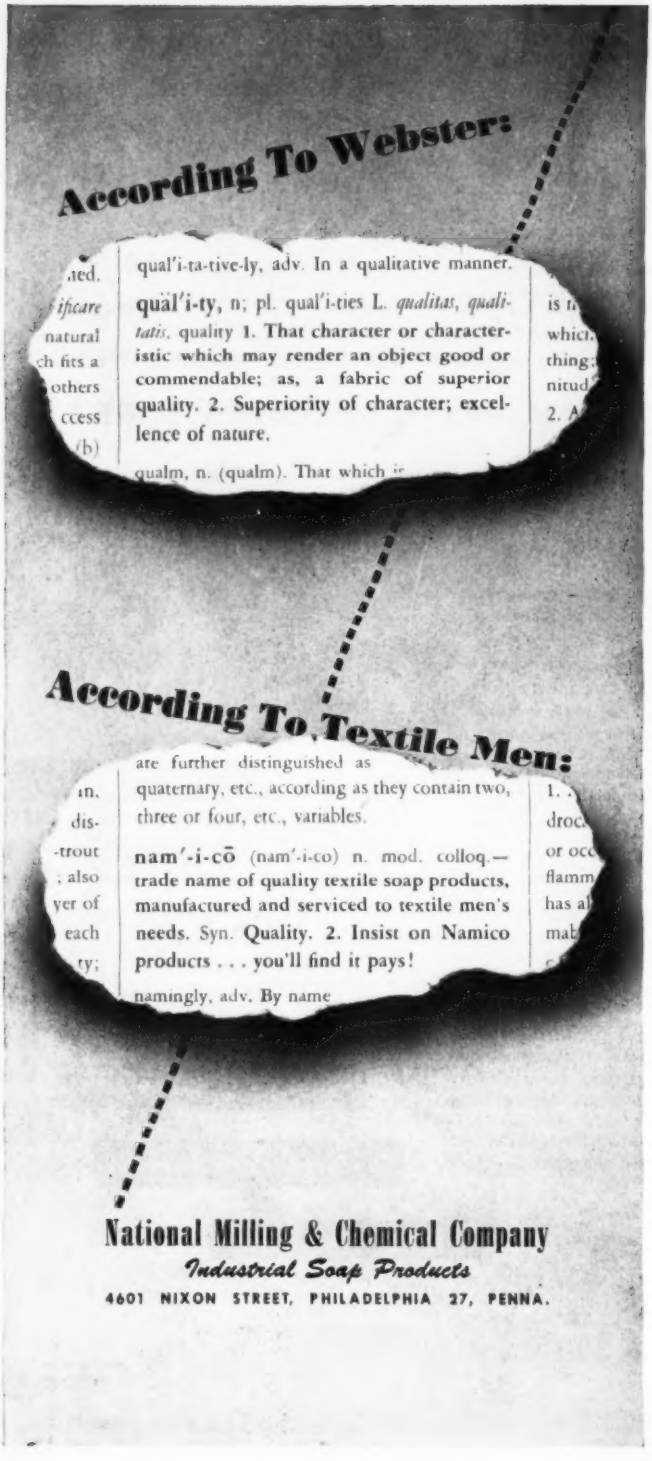
*Fiberglas is the trade mark (Reg. U. S. Pat. Off.) of Owens-Corning Fiberglas Corp., for a variety of products made of or with glass fibers. Coronize, Coronized and Coronizing are trade marks of Owens-Corning Fiberglas Corporation.


According To Webster:
qual'i-ta-tive-ly, adv. In a qualitative manner.
quăl'i-ty, n; pl. qual'i-ties L. qualitas, qualitatis, quality 1. That character or characteristic which may render an object good or commendable; as, a fabric of superior quality. 2. Superiority of character; excellence of nature.
qualm, n. (qualm). That which
According To Textile Men:
are further distinguished as quaternary, etc., according as they contain two, three or four, etc., variables.
nam'-i-cō (nam'-i-co) n. mod. colloq.—trade name of quality textile soap products, manufactured and serviced to textile men's needs. Syn. Quality. 2. Insist on Namico products . . . you'll find it pays!
namingly, adv. By name
National Milling & Chemical Company
Industrial Soap Products
4601 NIXON STREET, PHILADELPHIA 27, PENNA.

Questions and Answers

Continued

dyed. The width should come down in this treatment as much as possible.

A good procedure is to take a cutting of the goods and wet it out in the laboratory at dyeing temperature to determine what is the lowest possible width you can get. Then when you treat your goods as outlined, they should be made to come down to that width before they are put in the rope form. In this way, all the shrinkage will be taken up while the goods are still open but relaxed, and no cracks will form when they are put in the rope.

Quick Tests Used For Worsted Tops

Technical Editor:

What tests are generally made on worsted top by mills that buy the top? We are small manufacturers and do not wish to buy a lot of testing equipment or train laboratory technicians in complicated test routines; yet we'd like to be able to do enough testing to know that we're getting the stock we need. (9297)

A worsted top should be examined for quality, fiber length, and neps.

Since you do not wish to go into laboratory testing to a considerable extent, it probably would be best to have your tops tested occasionally for quality. Nearly any well-known top dealer is equipped for making Micronc tests. You can work out an arrangement with one of them for testing your tops for quality.

Length tests can best be made with a Suter stapling machine. One of these machines is also available at most worsted-top dealers. Hand stapling usually gives accurate enough results to permit comparison of various tops. If hand stapling is used, it is important that the same individual, or individuals, do the pulling each time and that results be accurately recorded.

Nep counts are made on a given amount of stock, say, 5 yd. A good procedure is to take 1 yd. of top from each of five balls and count the neps. It is best to have the same person make the count each time and to record the results.

A good practice is to break the count down into several classifications, as small neps, large neps, and slubs. If the stock is to be dyed, particularly for men's wear requiring twist shades or other color and weave effects, a fairly rigid nep standard should be set and adhered to. A standard of 50 neps in 5 yd. of top is a reasonable standard for this type of work. A top that has more than that number of neps should not be used for that quality of goods.

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New and Improved

- **Loomside Bearings Eliminated**

To eliminate the problem of keeping bearings in alignment, Hunt has now mounted *all four bearings* on the Spreader beam. Bored-in-line, they can never get out of alignment.

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The New Spreader is sturdier than previous models, providing even greater rigidity in the Spreader-and-Loom union. Permits ample room for beams, heddle frames, or spring type crank arms.

- **Requires No Adjustment**

The New Improved Hunt Spreader requires no adjustment at the time of installation, nor will adjustment be necessary if in future it is desirable to replace bearing bushings.

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Your looms, when equipped with Improved Hunt Spreaders, will produce more and higher quality cloth at less cost. Vibration is considerably reduced, picks-per-minute can be increased, breakdowns are noticeably fewer, maintenance costs are lower. The Improved Hunt Spreader is manufactured in sizes to fit looms of all makes, including the latest types and models. Write for full details.

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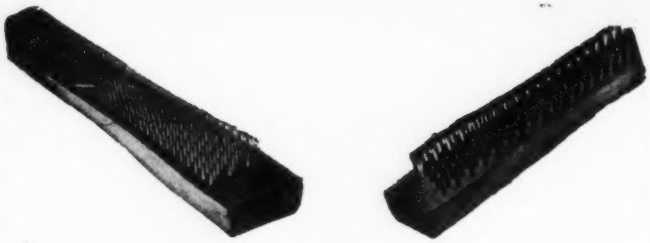
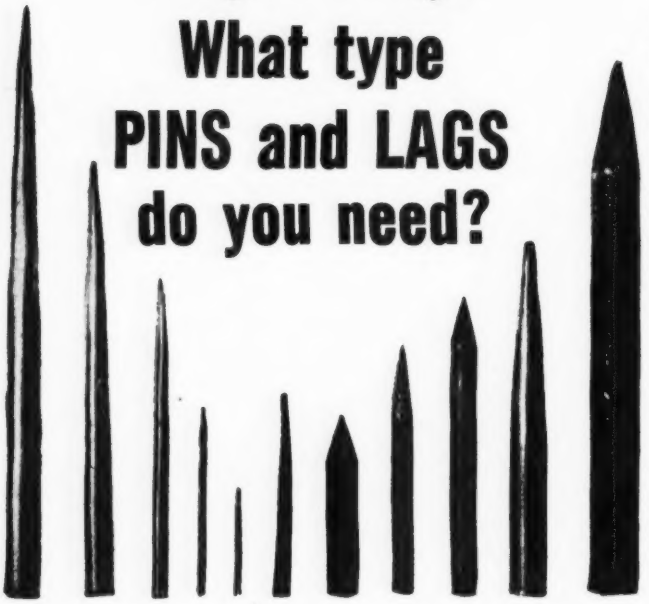


What type PINS and LAGS do you need?



NEW DEVELOPMENT MAKES THEM BETTER

Crabb Pins and Lags are developed by the new, modern method—micromax heat-treating equipment, used exclusively to produce Pins having any degree of hardness you require, *with absolute uniformity!*

Crabb Lags may be steel backed and steel faced, while other types, steel faced and one side, also laminated steel.

We produce stainless steel as hard as carbon pins, passivated to remove all exterior carbon, leaving the stainless surface. New polishing methods give extra high polish to the Pins.

Pins are carried in stock in a wide variety of types and sizes —immediate delivery on most orders.

Other Crabb products that offer you many advantages are *Cylinders, Combs and Hackles*—modern, sturdily constructed, long lasting.

Our technical staff is available and ready to help you with operating problems involving these products. Write for quotations . . . or for one of our representatives to call on you!

William Crabb and Company

301 Third Ave., Newark, N. J.

Dyeing Cotton Jersey

(*Continued from page 109*)

used for this purpose or other preparations and compounds of sodium chemicals such as Bleachite or Mexol PW. While Solozone must be handled carefully and with caution, it is excellent for removing cotton motes and also for a half-bleach of cotton jersey.

After the goods are bleached, they are blued with a small amount of methylene blue, fluorescent purple, or Tinopal. Tinopal is not technically a blueing, but it is excellent in removing the yellow cast in bleached whites. The goods may be blued afterward if desired.

When using hypochlorite, it is recommended that the pH be kept at not less than nine to prevent oxycellulose formation. It is said that borax will help maintain that pH.

BOTTOM-BLEACH. In dyeing cotton jersey in pastel colors, it is customary to give the cloth a bottom-bleach. The bottom-bleach is a synthetic-detergent scour with 3 to 4% Solozone or Bleachite run at the boil for 30 min. The goods should then receive a hot rinse so that no trace of the bleaching compound remains; otherwise there may be a reaction or change in the color of the dyestuff. Cotton interlock fabric, particularly, should get a bottom-bleach before dyeing.

In dyeing dark colors, such as brown, navy, and black, the goods should be scoured; but the bottom-bleach is unnecessary unless the colors are bright ones such as red, royal blue, or Kelly green. Poor bleaching and poor scouring (which is the incomplete removal of waxes, dirt, oil spots, etc.) affect affinity for the dye and influence the hue and evenness of the color on cotton jersey.

The one-bath bleach-dye operation is used in cotton jersey dyeing. For this one-bath method, the dyestuffs must be carefully selected so that they do not react with the bleaching chemical. The one-bath method has been successful with reds and pinks but unsuccessful with other colors. There seems to be little advantage in the one-bath method, since it is preferable after scouring to drop the bath to remove the accumulated scum and dirt before dyeing. As the bottom-bleach can be used in conjunction with the scour, there seems to be little to choose between doing the bottom-bleach with the scouring operation and with the dyeing operation, except that the careful selection of dyes is unnecessary when the bottom-bleach is done during the scour.

In scouring cotton jersey, the use of squeeze rollers on the newer type of dyebox will shorten the period

Rayon Reports

Prepared Monthly by American Viscose Corporation, New York, N.Y. MAY, 1949

Plant Modernization, Research Developments Described in 1948 Avisco Annual Report

The 1948 Annual Report of American Viscose underlines the program of the Corporation to improve production. The Report shows that expenditures during 1948 for plant and equipment amounted to $19,835,000. The larger expenditures were for:

1. *Completion of the Meadville plant expansion project.* This project increased the plant's capacity by approximately 75%.
2. *Installation of 51 additional spinning machines at Marcus Hook.* Completed in October, 1948.
3. *Modernization of and additions to steam and electrical generating facilities at the Lewistown and Parkersburg plants.*
4. *Rebuilding spinning machines at the Lewistown and Parkersburg plants.*
5. *The completion of a new water supply system and filter plant for the Sylvania Division at Fredericksburg, Virginia.*

Many other projects were also completed or in progress at the end of the year. Among those in progress were the installation of facilities to further expand production of rayon staple at Nitro and Front Royal and increase the production of cellophane at Fredericksburg.

Research and Development

Cited as the outstanding result of the Avisco research program in 1948 was the development of the "Filamatic" process, a new continuous-spinning method for the manufacture of viscose rayon yarns. Fast, small, and fully automatic, the new machines speed production, reduce handling and produce a high quality product.

Another important recent development is the disposable paper cover for yarn in cake form, exclusive with Avisco. This cover is more economical and convenient for customers and replaces the knitted covers used heretofore.

Crimped viscose rayon staple introduced in 1947 continues to prove its value. It gives soft-nap fabrics greater bulk without increase in weight, and a livelier hand to high-twist fabrics.

Details of these advances and other developments of interest to the textile industry are contained in the 1948 Annual Report of American Viscose Corporation. Copies available on request.

Manufacturer of hose knitter supplies Avisco tire yarn with his machine

The Fidelity Machine Co. of Philadelphia supplies four ten-pound cones of Avisco tire yarn with each of its standard hose reinforcement machines. The Company reports that after tests they found Avisco tire yarn (2200/980) unequalled in performance and are recommending it to all their customers.

RAYON 20 YEARS AGO

NEW YORK, May 1929 – Consumption of rayon in the fancy sweater field is on the increase. One of the reasons for its popularity is the attractive color effects which can be achieved.

WASHINGTON, D.C., May 1929 – An exhibit which tells the story of viscose rayon manufacture has been set up in the National Museum.

BERLIN, May 1929 – Contracts have been received here for erecting and equipping two rayon plants in Soviet Russia.

MAKE USE OF *Avisco*® 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

1 FIBER RESEARCH
2 FABRIC DESIGN
3 FABRIC PRODUCTION
4 FABRIC FINISHING

AMERICAN VISCOSE CORPORATION

America's largest producer of rayon

Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.

There's good quality burlap, of course, whether your job needs the famous Angus Burlap which only Bemis imports, or one of the standard grades.

But there's more than this in Bemis Burlap. There's:

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saves time and money for those who package odd-shaped and bulky products.

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needed as the result of the mechanical action. The decisive factor in actual duration of the dyeing operation is the time needed to bring the bath to the boil, which may vary in different dyehouses from 10 to 45 min.

Cloths involving rubber elastic yarns are dyed at temperatures under 180° F. so as to avoid damage to the rubber; however, this temperature not only lengthens the time of dyeing but also may affect the salt-exhaustion speed. Cloths containing metallic threads can not be put in acid baths as they will tarnish the metal; in such cases, the pH of the bath must be carefully checked and controlled.

The following dyestuffs are used for practically all pastel shades on cotton jersey: Chrysophenine, Yellow 4 GL, Blue 4 GL, Blue SFL, Sky Blue 6B, Violet 2 RLL, Scarlet 4 BAN, Scarlet 3B, Red 7B, Black L, Brown BRLL, Brown 4 GL, Orange EG, Green FF, and Green BLL. The amount of dyestuff used for pastel colors is usually less than 1% by weight of the cloth. The difference in price between commercial dyes and fast-to-light dyes is so small that it pays to apply the faster colors as there is an additional advantage in the greater brilliance of color attained.

DYE TYPES AND PROPERTIES. In the use of direct dyes on cotton jersey, common salt is used to exhaust the dyestuff in the bath. According to a dyehouse maxim, it is cheaper to use salt than dyestuff. In the use of some colors, such as blues and greens, glauber salt is recommended. The desired amount of salt should be added in parts rather than dumped in the bath at one time. Salt should be dissolved in water and then put into the bath rather than added in crystal form. Where salt crystals get on the goods there is a resultant dye spot. The exhaustion rate of the individual dyes should be studied; some dyes exhaust very rapidly with salt and some dyes need an excess of salt in order to exhaust. Too rapid exhaustion of dyestuff by salt causes streaky dyeing. The amount of salt to be used must be carefully calculated; a light pastel on cotton jersey might need 5 lb. for a 500-lb. lot, while a black or brown might need 200 lb. of salt for the same poundage of goods.

Sulphur dyes are not commonly used on cotton jersey. Naphthols cannot be applied in the dyebox, and often a customer will wonder why the brilliance of a polo-shirt stripe (naphthol yarn dye) cannot be matched in a piece-dye. Developed dyes and after-treated direct dyes are used to give better wash-fastness and light-fastness than is possible with direct dyes alone. Khaki vat dyes have been successfully

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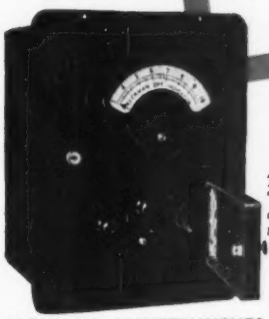
can reduce waste . . . improve uniformity . . . save time . . . cut costs . . . in your textile operations



The Beckman Model "R" Automatic pH Indicator—ideal for automatic process control.

BECKMAN pH INSTRUMENTS are recognized throughout industry as the most advanced, most versatile and most accurate pH equipment available.

Through the scientific application of Beckman pH Control you can perform many textile operations more efficiently and more uniformly, with less waste and better product quality. Typical applications include . . .

DESIZING — to prevent fiber damage when removing sizing materials.

BLEACHING — to control alkalinity, whether using caustic or peroxide.

MERCERIZING — to prevent damage by too-strong caustics.

DYEING — to control acids and alkalies to insure even dyeing and protection of cloth.

SCOURING — to control alkalinity of soap solutions.

CARBONIZING — to insure proper acid concentration for adequate cleaning.

SOAKING — to insure neutral soaking solutions prior to "throwing" rayon or silk.

LABORATORIES — for varied research and control operations.

. . . and many other applications.

There is a Beckman pH Instrument for Every Requirement

— from small meters for portable plant and field use to fully automatic equipment for large-scale process control applications. Portable instruments include both battery and AC operated types, and an unusually wide selection of Beckman Glass Electrodes is available to meet every application.

Helpful Booklet. *Send for this free booklet "What Every Executive Should Know About pH" . . . an informative non-technical explanation of Beckman pH Control and applications.*

BECKMAN QUARTZ SPECTROPHOTOMETER —

This instrument is rapidly becoming the standard equipment for color control, color matching, color specifying and other color standardizing operations in the textile industry. It can be used either for exact-color analyses by reflectance measurements on textiles and other opaque materials . . . or for transmission and density measurements on dye fluids and other transparent solutions . . . supplying a permanent record that can be filed for future reference. It also can be used for analyzing chemical solutions quantitatively. By all standards, the Beckman Quartz Spectrophotometer is not only the most advanced, most compact, most versatile spectrophotometric equipment available, but also the least expensive. It is unusually simple to operate and no highly-trained personnel is required.

- The Beckman Quartz Spectrophotometer covers a wide spectral range — from 220 mmu in the ultraviolet, through the visible, to 1000 mmu in the infrared — the complete range of interest in textile applications.
- Measurements can be made to unusually narrow spectral band widths, permitting more accurate color analysis and differentiation.
- Scale can be easily read to 0.1 mmu in the ultraviolet — to 1.0 in the infrared.
- For maximum convenience, portability and accuracy the monochromator, light sources, phototubes and electrical circuits are all enclosed within one compact case.
- Stray light effects are held to less than 1/10% over most of the spectral range, assuring maximum accuracy.
- Direct readings in percent transmission and density can be made simultaneously.

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Beckman Model "DU" Quartz Spectrophotometer.

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Beckman equipment includes other instruments besides those outlined above. So, whether yours is a problem in pH control, color control or other specialized textile applications, let our trained engineers study your needs and make recommendations on the equipment best suited to your requirements. No obligation, of course.

Send for descriptive literature on Beckman Instruments! Beckman Instruments, National Technical Laboratories, South Pasadena 12, California

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CLARK "60"

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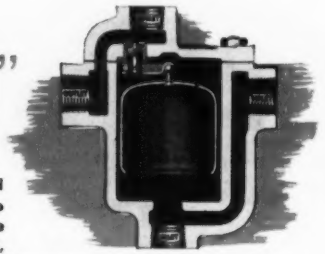

The ever increasing demand for the new CLARK "60" Steam Trap proves that Clark engineers "hit the jackpot" again on this one! It is small, costs less, yet it does a *better job* in *more places* than any other trap in its class!

The CLARK "60" is "the small trap with the big trap features" such as positive seating with guided disc. It is equipped with two inlets and two outlets for easy installation on horizontal or vertical lines.

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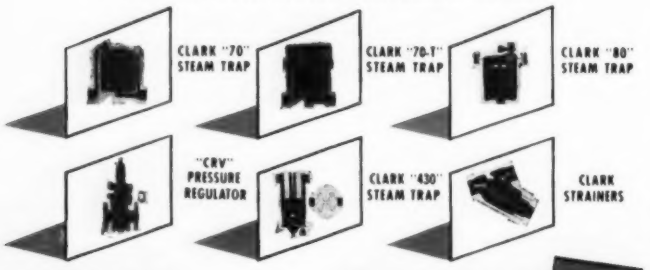

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TRAPS—FLOAT, INVERTED BUCKET, OPEN BUCKET AND VACUUM • REDUCING VALVES • STRAINERS

used on cotton jersey, as they go on at low temperatures; but, generally, vat dyes are not used on piece-dyed cotton jersey due to inability to control the oxidation process when the dyebox is used.

In attaining wash-fastness at low cost, the use of after-treated direct colors has an important place. While it is seemingly easy to match colors by use of direct dyes, the after-treatment changes the shade. Furthermore, the application of finish may make a further change. These changes in shade must be known in advance, and proper compensation by overdyeing must be made. Greens tend to go on the yellow side and must be compensated by the use of blue. A color such as Rubine tends to go on the blue side, while browns go redder with after-treatment. The common after-treatment method uses formaldehyde and acetic acid on selected dyes; there are also some patented after-treatment chemicals.

DEVELOPING. Developed colors are diazotized and developed as follows:

After the usual dyeing and exhaustion procedure, the cotton jersey is diazotized with 5% sulphuric acid and 3% sodium nitrate (by weight of goods) in a fresh cold bath for 30 min. The dyebox is overflowed and the bath dropped and the goods rinsed well. The goods are then developed with 1% beta naphthol and with 1% caustic soda in a fresh bath for 20 min. There are other developers beside beta naphthol. As the developing process is similar to that done in photography, care must be taken that direct light does not shine on the goods.

It is good practice in wash-fastness procedure to wash off the excess dyestuff by a thorough soap bath at a temperature slightly above the temperature for which the wash-fastness is sought. Hence, if the developed color is to have a wash-fastness at 130° F., a soap rinse at 135° F. will be an excellent precautionary measure.

In redyeing cotton jersey, the goods are stripped of color with sodium hydrosulphite. The usual procedure is to use half as much soda ash as sodium hydrosulphite; at 100° F., add soda ash and then sodium hydrosulphite (2 to 4% by weight of goods) and raise the temperature to the boil for 30 min. The goods must receive a hot rinse followed by a cold rinse after the stripping process. Sometimes the dye may be stripped by use of liquid sodium hypochlorite, which must be followed by a neutralizer as in bleaching with chlorine. Stripping does not result in total loss of color, tests should be run before operation in dyebox.

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Now is the time when the advanced performance of the Union Special Lockstitch can pay you EXTRA DIVIDENDS. In addition to improving the quality of work produced, this machine, through its high speed, fast starting and stopping, and ease of operation, consistently delivers greater output per hour of work at a lower unit cost per piece handled. Put the Lockstitch to work in your own plant! Let it help get greater output with less expense. The Lockstitch is available for a wide variety of single needle, plain seaming operations. Get the machines you need NOW! See your local Union Special representative, or write.

INDUSTRIAL SEWING MACHINES

INTRODUCING

RATO-CHLOR

A REVOLUTIONARY CHLORINATOR PRICED BELOW $1000

New in every sense of the word . . . no poppet valves, no bell jars, no water seals . . . just an assembly of standard instruments! It's simple—it's inexpensive—it's versatile—it's accurate—it's compact. Maintenance costs are negligible.

Three standard models cover every chlorine requirement—municipal, industrial, or swimming pool. Prices start at $300. Solution feed, dry gas feed, or hypochlorite for flow rates as low as 5 lbs. per day.

Be sure to get your copy of Catalog 61 which contains an illustrated description of RATO-CHLOR dispensers now used in more than 100 installations.

FLOWRATOR
TRADE MARK

FISCHER & PORTER CO.
Dept. 9Q-8X Hatboro, Pa.
INSTRUMENTS FOR FLOW RATE MEASUREMENT AND AUTOMATIC FLOW CONTROL

blends may be dyed by saponifying the acetate with hydrosulphite and then following with direct dyeing. Saponification tends to give the fabric a harsh hand which can be corrected by use of a softener in finishing. Saponification tends to simplify the matching of colors and is useful when an inexpensive operation is desired.

Finishes may be inserted into the goods in the dyebox. If the cotton jersey is not to be loaded for gain in weight, the non-curl solution may be put in the last rinse. Delustering compounds used on bright rayon may also be put in the last rinse.

IMPORTANCE OF PERSONNEL. Unlike the weaving mill where the mechanical performance of machinery is the important factor in production volume and production efficiency, dyehouse production and efficiency are peculiarly affected by and dependent upon personnel, especially the dyer.

The dyer must know not only the theory but also the practice of dyeing. Often the practical dyer or "spoon" dyer knows nothing of the theory of dyeing and hence does not attain his maximum possible performance ability; while the theoretical dyer is unbalanced due to lack of extensive practical experience.

The dyer should be able to handle 10 or 12 dyeboxes if given the proper assistance. A good dyehouse has a chemist, who not only tests dyestuffs and chemicals for purity and quality, but also does research on particular problems which arise. An accurate and efficient color mixer or weigher is necessary to good dyehouse operation. The floor-man is really the dyehouse production manager, as he sees to it that the dyehands follow the dyer's instructions faithfully and explicitly.

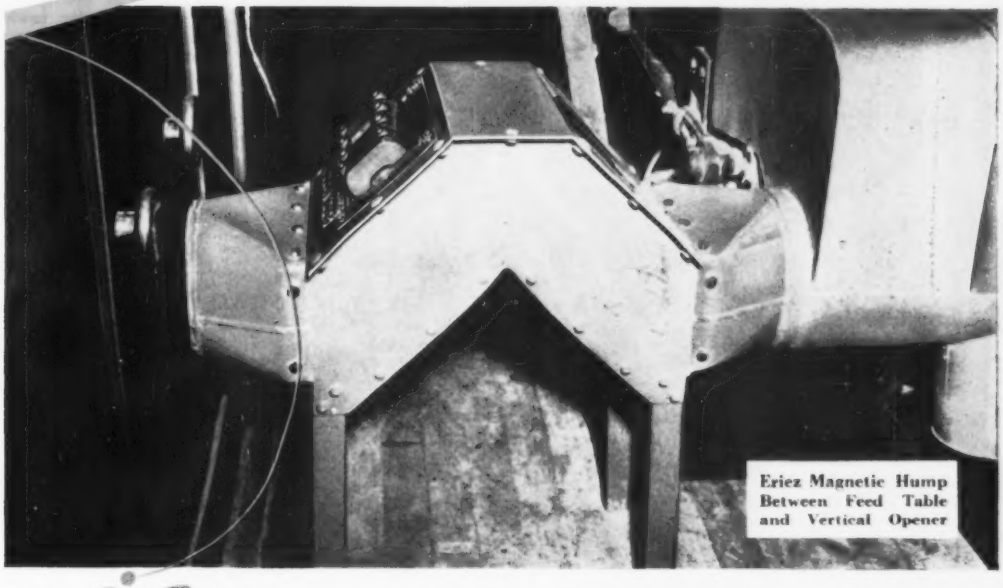
Textile Club

(*Continued from page 129*)

similar to the above, but the history of this club will show that it has lived up to its profession of faith much better than most. It has taken part, and sometimes the leading part, in the worthwhile movements of the community. And, although its membership comes from 26 plants, its unanimity of action has been remarkable.

START. For the first year, the club meetings were held in the various textile communities in the county; the suppers were served by church organizations and paid for by the overseers of the community or their plant. It soon became apparent that since each community tried to outdo the others in the elaborateness of

"Over A YEAR'S OPERATION AT WOODSIDE WITHOUT AN OPENING ROOM FIRE."



Eriez Magnetic Hump Between Feed Table and Vertical Opener

2 Eriez MAGNETIC HUMPS RETURN 5 DOLLARS ANNUALLY FOR EVERY DOLLAR INVESTED!

FIRES, caused by tramp iron were common at Woodside Mills, Greenville, S. C. Then in January 1947 at a cost of approximately $500.00, two Eriez Non-Electric Permanent Magnetic Humps were placed in the opening room ahead of the vertical openers. By this simple action, fires were eliminated. Previous to installation, the mill averaged at least one fire per month and the estimated loss was $2,500.00 annually — on property alone. Check the cost sheet— in less than six months, the two Eriez humps paid for themselves. The Eriez magnetic equipment shown above was designed specifically to remove tramp iron and subsequently eliminate fires. It can be used ahead of any high speed opening machinery with excellent results. Woodside's experience is typical of hundreds of mills using this Factory Mutual approved magnetic equipment.

Remember Eriez Permanent Non-Electric Magnets give you these advantages . . . Superior cleaning ability . . . No operating or maintenance costs . uninterrupted protection. Magnetic strength will last indefinitely.

Write today for Textile Bulletin 104-A for complete details.

Pioneer of PERMANENT Magnetic Separation

SEE OUR CATALOG IN SWEET'S

See our catalog P 11b/2 Sweet's Process Industries File.

ERIEZ MANUFACTURING COMPANY

501 East 12th St. • ERIE, PA.

A HALF CENTURY OF EXPERIENCE

Experience is the best teacher and this company has had half a century of it in manufacturing shuttles and bobbins for all fibres.

All wood for Lowell Products is well seasoned and kiln dried. Every operation is performed in our own shop to control quality and speed up deliveries. Any desired finish can be furnished. May we hear from you?

LOWELL SHUTTLE COMPANY

Established in 1896

15 TANNER STREET • • LOWELL, MASS., U.S.A.

supper and program, one of the very purposes for which the club was formed was being defeated. This purpose was: The advancement of good will within the textile industry.

After the first year, the monthly meetings were held at the Parker High School cafeteria of the newly organized Parker School District, and the suppers were paid for by the members. At first, no dues were charged; but twenty-five cents was added to the price of the supper to take care of postage, meals for program personnel, etc. Now dues are one dollar per year, and dinners are priced at $1.50.

The small annual fee has been ample to defray club expenses, which consist of printing of tickets and stationery, postage, meals for outsiders appearing on the programs, and expenses and an occasional fee for speakers.

For several years, the club has been meeting on the third Thursday night of the months of September through May with the exception of December. The December meeting was dispensed with because it conflicted with Christmas preparations. No regular meetings are held during the summer, but an occasional one has been called when there was some special reason. Five of the regularly scheduled meetings are routine meetings; two of the others are ladies' nights; and the eighth is boys' night.

REGULAR MEETING. The program of a regular meeting usually consists of supper, a speaker on some topic of interest to the membership, and an entertainment feature of some kind. Many speakers of national prominence have appeared before the club: Dr. Allan Stockdale, Dr. Albert Walton, Dr. George Heaton, Guy B. Arthur, Jr., and the late Dr. William P. Jacobs, to mention some. A question-and-answer period usually follows the address of the visiting speaker.

Programs for ladies' night are usually much more elaborate. Boys' night is always held in May and is in the form of a "cook-out."

In addition to its regular monthly meetings, the club has, in cooperation with the Parker School District, sponsored several conferences for supervisors. These run for two or three days and have been led by such people as Dr. B. E. Geer, Dr. Thomas H. Quigley, Dr. Albert Walton, and Guy B. Arthur, Jr. Meetings are held in the mornings for the benefit of men from the second shift, and at night for first- and third-shift supervisors.

These conferences, as well as most of the routine meetings, have had a human-relations slant. Both manage-

Color Dynamics..

We'll gladly submit a COLOR DYNAMICS survey of your plant—free and without obligation!

• One of the departments of the Lily Mills Company of Shelby, N. C., after it had been decorated according to the principles of COLOR DYNAMICS.

PITTSBURGH COLOR DYNAMICS is much more than a system of painting. It takes into consideration many factors upon which an accurate color plan must be based.

We'll be glad to make a scientific *color-engineering study* of your plant on request—free and without obligation on your part.

Pittsburgh's Painting System—COLOR DYNAMICS—has transformed many drab and uninviting factories into pleasant and comfortable plants. It has won praise such as this from J. W. Schenck, secretary of Lily Mills, of Shelby, N. C.:

"**Use of specific colors** based on your Color Dynamics' principles is helping us to maintain a higher employee morale, a good safety record and efficient production throughout our entire plant."

Wherever COLOR DYNAMICS has been applied plant workers' eyefatigue is lessened, absenteeism is reduced, accidents are prevented, housekeeping problems are reduced, and quantity and quality of output are improved.

Why not test COLOR DYNAMICS in your plant—in a department or on a machine or two. Then note the difference in efficiency and morale.

SEND FOR A COPY OF THIS BOOK!

Pittsburgh Plate Glass Co., Paint Div., Department TW-59, Pittsburgh 22, Pa.

☐ Please send me a FREE copy of your new revised and enlarged Booklet "*Color Dynamics In Industry*."

☐ Please have your representative call for a Color Dynamics Survey of our properties without obligation on our part.

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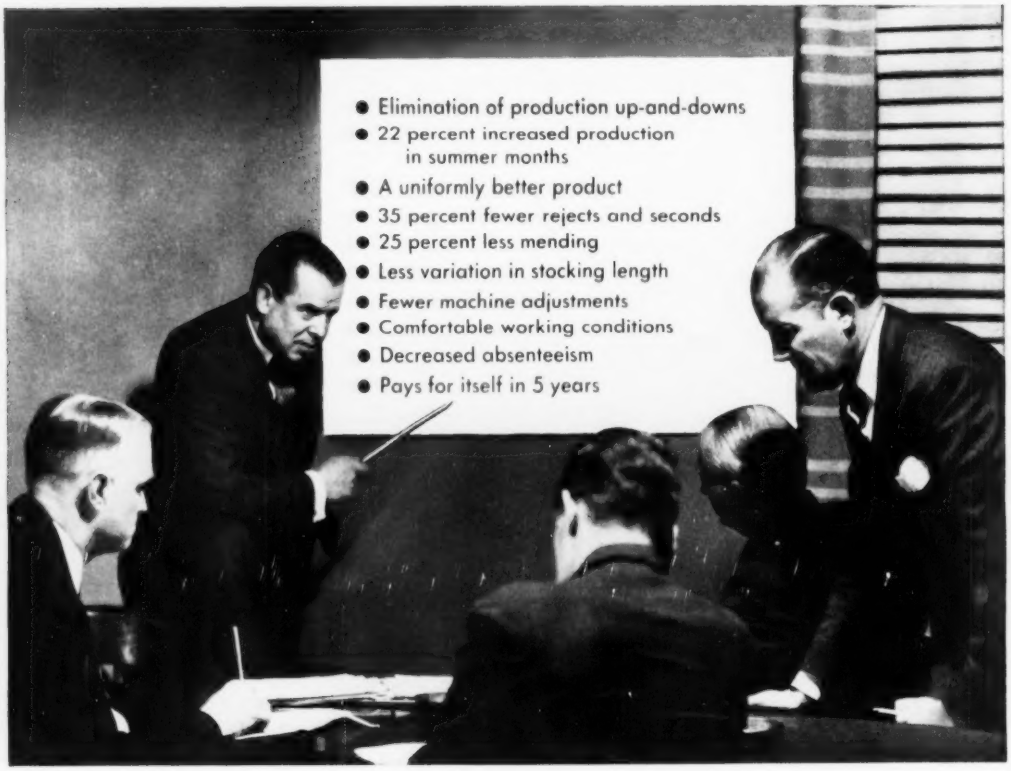
PITTSBURGH PAINTS

PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS

PITTSBURGH PLATE GLASS COMPANY

Every Mill needs these Results

...THAT'S WHY EVERY MILL NEEDS AIR CONDITIONING


● Elimination of production up-and-downs
● 22 percent increased production in summer months
● A uniformly better product
● 35 percent fewer rejects and seconds
● 25 percent less mending
● Less variation in stocking length
● Fewer machine adjustments
● Comfortable working conditions
● Decreased absenteeism
● Pays for itself in 5 years

These are the results of York-equipped central station air conditioning in a hosiery mill.* It is proof of the tremendous effect that climate control can have on the production, personnel and product picture.

No progressive textile plant can afford to be without air conditioning today. It is as important as quality materials and modern machinery.

You'll find the answer to your particular air conditioning problems from a York engineer. He is equipped with up-to-the-minute facts that will be helpful in your planning, and useful to your plant engineer, consultant or mechanical contractor. York Corporation, York, Pa.

** Name supplied on request.*

York refrigeration air-conditioning

Refrigeration and Air Conditioning

HEADQUARTERS FOR MECHANICAL COOLING SINCE 1885

ment and supervision have wanted it this way. Incidentally, only one textile plant in Greenville County is unionized.

For the past two summers, the club has sponsored a two-day conference on human relations at Camp Parker, which is located on the Saluda River at Blythe Shoals. There are accommodations at the camp for 135 persons and, since approximately 700 supervisors are eligible to attend, it has been necessary to set up a quota for each plant.

The conference in August, 1947, was for second hands exclusively. The club felt that this grade of supervision might be more in need of the service than any other.

CONFERENCE THEME. The theme of the conference was, "The Second Hand's Relationships in the Plant." Exceptionally good men were secured to handle the different phases of this subject. They and their subjects were:

"The Place of the Second Hand in the Plant," by Frank Aiken, then superintendent of Judson Mills; "The Relationship of the Second Hand to Top Management," by Alan B. Sibley, treasurer Judson Mills; "The Relationship of the Second Hand to Those Who Work with Him," by Douglas T. Smith, industrial engineer, American Viscose Co.; "The Relationship of the Second Hand to the Staff and Other Supervisors," by John J. Carson, personnel consultant, J. D. Woods & Gordon, Ltd., Toronto, Canada; "Economics as Applied to the Second Hand's Job," by E. G. Michaels II, Marshall Field & Co.; "Future of The American Textile Industry," by the late Dr. William P. Jacobs, president, American Cotton Mfrs. Assn.

Twenty of the twenty-six plants in the county were represented at the conference. Plants paid a fee of $7.00 for each second hand sent, and this amount was adequate for all expenses. The conference was presided over by Frank Aiken, president of the club; and discussion was under the leadership of R. V. DeVane, vice president.

The 1948 conference was thrown open to all supervisors, but due to lack of accommodations, only 125 could be taken care of. Twenty-three plants sent people, as against twenty in 1947. About one-half of those attending were overseers and foremen. The rest were second hands.

The theme of the 1948 conference was "Getting Along With Folks." Speakers and their subjects were as follows:

"The Importance of Getting Along with Folks," by John M. Holmes, general secretary, Greenville

Speed your Warping

FAST LOADING—positive positioning—no snagging with McBride patented swinging arms. Smooth finish, totally enclosed ball type positioning lock and completely recessed set screws eliminate all obstructions that might snag ballooning yarn.

GREAT VERSATILITY is provided by both the basic design and the carefully planned detail of McBride Magazine Creels. Assembly can be varied with yarn coming down either inside or outside for draw-off over end. Equipped with spindles for tubes or universal metal cone holders, this creel eliminates the necessity for wooden plugs. Double post disc type tension units with recessed hex heads provide positive adjustment without danger of marring finish with pliers or wrenches.

EASY CLEANING, even when fully loaded, is assured by McBride monorail construction. Achieved without loss of strength or rigidity, this design gives complete access from both sides, eliminating objectionable "lint pockets."

Write today for the *new folder* on McBRIDE Creels, Rolls and Loom Beams

Manufacturer for the Textile Industry

Mc BRIDE

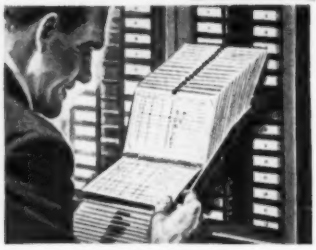
Edward J. McBride • 1400 Adams Ave. • Philadelphia 24, Pa.

CREELS *for every purpose,* WARP BEAMS • FLANGES • ROLLS

"So you're up against a buyer's market!

Here's how WE met THAT problem . . .

"WE PIN-POINT PROFITABLE ACCOUNTS—At our regular sales meetings we select our most profitable groups of accounts, and plan our "push" accordingly. Our Sales Record shows us just where to concentrate effort, shows it fast and automatically because visible signals highlight all key facts. Results . . .



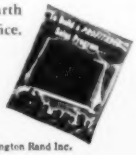
"WE GET THE MOST FROM EACH ACCOUNT—Competition never gets a chance to move in. Our Kardex Record reveals what scheduled calls have not been made, where sales are below potential. It even indicates the probable current needs of each account—a big help to our customers as well as ourselves.

"WE MAKE MORE CALLS—That Kardex Record of ours does just about everything but make a salesman's calls for him . . . and all with a minimum of clerical help. It automatically prepares his selling angles, helps him plan each day, gives him more free time for seeking new accounts, reselling others.

"WE MAKE BIGGER PROFITS—The company does—and so do the salesmen—in spite of the Buyer's Market prevailing today. I suppose the secret of it all is selective selling, fewer wasted calls. Not to forget our Kardex Visible System—it never lets us forget WHO, WHEN, WHAT, to sell."

Here's the answer to your Buyer's Market . . . FREE!

Ask for free copy of "How to Build a Profitable Sales Program". Packed with facts, methods, ideas for dealing with a Buyer's Market. Write to Systems Div., Room 1125, 315 Fourth Ave., New York 10, or call your nearest Remington Rand office.



Remington Rand

THE FIRST NAME IN BUSINESS SYSTEMS

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Y.M.C.A., retired; "How to Teach Safety to Folks," by Capt. A. A. Nicholson, assistant to vice president of The Texas Co.; "What Folks Need to Know about Economics," by Thomas H. Quigley, professor of industrial education, Georgia Institute of Technology; "How to Improve Relationships with Folks" by T. O. Moore, vice president and general counsel of P. H. Hanes Knitting Co.; "Getting Along With Folks in the Plant," a panel discussion by Guy B. Arthur, Jr., leader, and T. O. Moore, Thomas H. Quigley, H. E. Runge, John W. Arrington.

This conference was presided over by J. B. Templeton, president of the club. W. H. McCall, vice president, led the discussion. The newly elected officers of the club are already working with a committee in preparation for the 1949 conference to be held this summer.

In addition to the items already enumerated, the club membership has provided advisory committees for the large vocational program carried out by the Parker School District. The school officials say that they attribute much of the school's national reputation for excellence in vocational instruction to the men of the club who have given so willingly and intelligently of their time and services.

Cotton Research

(*Continued from* page 131)

soft tafts, and is of a design flexible enough for getting information of research interest. With a view to establishing some fundamental principles of cleaning, studies have been begun on the characteristic adherence of cotton fibers to trash and the electrostatic potential of the many types of trash particles.

LONG-TERM PROJECTS. Examples of studies undertaken by the Dept. of Agriculture that have attracted the commercial interest of industrial firms include the following:

1. Ready-made cotton filter bags are being rot-proofed by partial acetylation for use in water-softening systems.

2. Tobacco shade cloth is being weatherproofed by precipitation in the fiber of lead chromate, which screens out the sun's rays responsible for deterioration.

3. Textile fibers are being produced in some volume from zein, the alcohol-soluble protein of corn.

4. Cotton tire cord is being improved with the help of a constant-tension tire-cord stretcher, an improved ply-building machine, a remodeled

3 BIG ADVANTAGES

where mildew formation is a problem

1 EFFECTIVE MILDEW RESISTANCE

Here's the enamel especially formulated to meet the demand for all mill white with resistance to mildew and other fungous growth. DULUX Mildew-Resisting Mill White contains an inhibitor that is extremely toxic to mold formation . . . yet non-irritating and harmless to painters and workers. It's ideal for mill interiors where moisture condensation and poor air circulation combine to foster the growth of mildew and other fungus.

2 LASTING WHITENESS RETENTION

DULUX Mildew-Resisting Mill White is unsurpassed for whiteness and gloss retention. It starts white, stays white . . . gives *years* of protection without perceptible yellowing. It covers walls and ceilings with a hard, tile-like surface that is easy to keep clean because it repels dirt and dust collection.

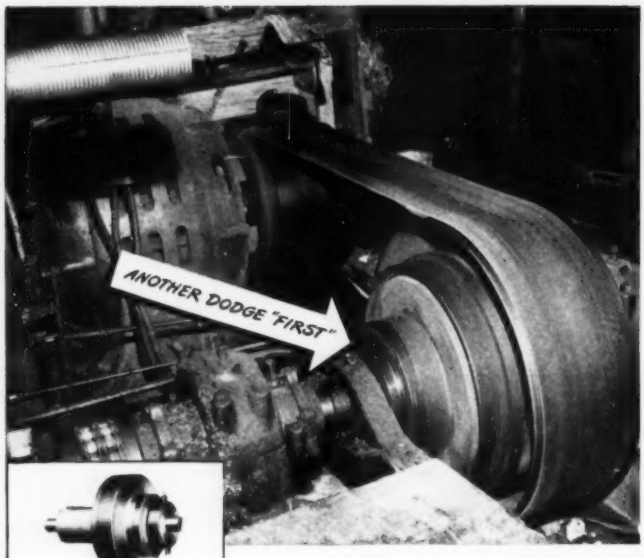
3 FAMOUS "DULUX" PERFORMANCE

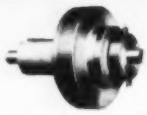
This special mildew-resistant formulation gives you all the outstanding qualities and performance of regular DULUX enamel. It stands up under hard knocks and staining from oil and grease. In application, it goes on smoothly, covers well, possesses unusual hiding power. All in all, DULUX Mildew-Resisting Mill White is the perfect answer to the demand for an enamel that offers *long* life with a *minimum* of maintenance.

Why not talk over your maintenance painting problems with a Du Pont expert today? To get in touch with him, write E. I. du Pont de Nemours & Co. (Inc.), Finishes Division, Dept. T.W -95, Wilmington 98, Delaware.

DU PONT **PAINTS**

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*





Over 50 years of experience in the manufacture of industrial clutches have gone into development of rugged Dodge Diamond D Friction Clutches.

"SHOCK" TROUBLE?

Here's one way to lick it!

Here a Dodge Diamond D Clutch takes the tremendous shock loads of a veneer peeler lathe. Huge logs are revolved and "peeled" by knives, with 150 to 200 engagements per hour! Precision-built clutches, capable of performing dependably where profits depend upon uninterrupted operation, are another Dodge "first."

For information on how Dodge products can improve machine performance, save power and keep production steady, call the Transmissioneer, your local Dodge Distributor. He has news on latest developments in the field of power transmission machinery.

DODGE MANUFACTURING CORPORATION, MISHAWAKA, INDIANA

TAPER-LOCK SHEAVE
Simplest, surest mechanism ever devised for holding wheels to shafts.

DODGE-TIMKEN BEARINGS
save power on millions of industry's toughest jobs.

ROLLING GRIP CLUTCH
No toggles! Compact. Extreme flexibility with positive drive.

FIRST IN POWER TRANSMISSION MACHINERY!

DODGE
of Mishawaka, Ind.

CALL THE TRANSMISSIONEER — graduate of a Dodge factory course, qualified to help on your power transmission problems. Look for his name under "Power Transmission Equipment" in your classified telephone directory.

NAME PLATES

FOR YOUR NAME PLATE REQUIREMENTS, WRITE OUR SUBSIDIARY, ETCHING COMPANY OF AMERICA, 1520 MONTANA STREET, CHICAGO 14, ILLINOIS

multiple-stand flexing machine, and a redesigned fatigue-testing machine.

NEW COTTON USES. The SRRL has also developed several new tests to aid in the development of increased uses for cotton cords and fabrics. Efforts were directed toward the measuring of cotton water absorbency and measuring the breakdown of cellulose by chemical agents. Data were gathered on the physical properties of chemically bonded fibers, with an eye to expanding their commercial use. Extensive progress was reported on tire-cord research techniques.

TRICOT KNITTING. Research on methods for making cotton yarns "as suitable as synthetics" for use on high-speed tricot knitting machines is slanted in two directions:

1. To study the combination of yarn properties required for high-speed tricot knitting. Comparative tests are being made as to the physical properties which influence knitting quality, maximum operating speeds, and factors which limit speed.

2. To evolve methods of processing cotton yarns to improve their running quality for tricot knitting, including amount of twist, and possible chemical treatments.

This research is being carried out under contract with the Textile School of the North Carolina State College of Agriculture and Engineering, and is supervised by the Southern Regional Research Laboratory.

Metallic Residues

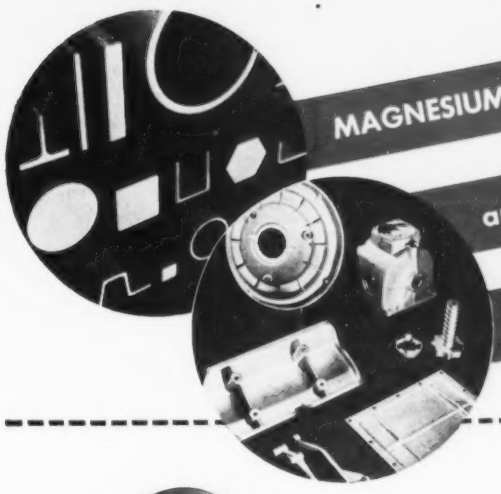
(*Continued from page 133*)

about by the formation of the insoluble metallic soaps. For example, calcium soap is formed by the presence of calcium sulphate in the water supply according to the equation.

$$CaSO_4 + 2\ C_{17}H_{35}COONa = (C_{17}H_{35}COO)_2Ca + Na_2SO_4.$$

Here is a soluble sodium stearate with excellent detergent properties converted into calcium stearate. There is loss of detergency in the solution in proportion to the amount of calcium stearate formed. Calcium soap in the colloidal form, which it usually takes in aqueous liquors, absorbs a further amount of sodium soap from the solution which is roughly equal to the bulk of the calcium soap dispersed throughout the liquor. Under such conditions, the estimated loss of soap has been calculated at 1½ to 3 oz. of soap per 100 gal. of water, for each degree of hardness in the water. A greater amount of soap is therefore required to produce an efficient washing liquor.

When large amounts of water are



MAGNESIUM EXTRUSIONS...

and DIE CASTINGS are...

light, low in cost, dependable

They bring production economies to this roving spool!

Textile equipment manufacturers know that it pays to use magnesium! The manufacturer replaced the material ordinarily used for this roving spool with magnesium. Several gains resulted. The magnesium spool did not crack, warp or splinter and it had excellent balance. In addition, there was a 25% reduction in weight over the material formerly used.

Even more important were the operational economies of the new spool. Running true as it did, the roving could be run off the magnesium spool until only two or three revolutions were left. The remaining roving could easily be slipped down to the flange and removed without damage to the spool.

If you manufacture textile equipment, you'll find that magnesium holds the answer to dependable service and improved performance. Try it. Remember, there's a readily available supply and, today, magnesium is priced more favorably than ever before!

DOW

Magnesium IN TEXTILE EQUIPMENT Pays

Write for this revealing free book "How Magnesium Pays." It's filled with actual case studies of how manufacturers of a wide range of products have found that magnesium pays.

Send me the study MP 49-50 "How Magnesium Pays"

NAME _____

TITLE _____

FIRM _____

ADDRESS _____

MAGNESIUM DIVISION • THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN

New York • Boston • Philadelphia • Washington • Cleveland • Detroit • Chicago • St. Louis • Houston • San Francisco • Los Angeles • Seattle • Dow Chemical of Canada, Limited, Toronto, Canada

With labor costs as they are, the fast, *mechanized* TENNANT System can save you more *today* than ever—besides eliminating scrubbing. Here are 5 reasons why TENNANT "dry cleaned" floors are cleaner . . . brighter . . . safer—yet *cost you less:*

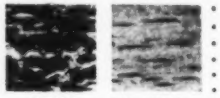
1 **Requires less manhours** for floor maintenance because floors can be cleaned *faster* . . . stay clean longer. Unlike rough, dirt-catching scrubbed floors, Tennant-cleaned floors are smooth, hard, dirt-resistant . . . clean up like magic! Saves time and expense.

2 **Makes floors easy to clean.** Fast, low-cost "dry cleaning" with a Tennant Machine keeps floors bright, durable. Only daily care is dry mop sweeping.

3 **Cuts accident costs.** Helps keep floors DRY and safe. Aids morale.

4 **Makes floors last longer** by protecting against dampness, decay and wear.

5 **Helps prevent losses** of yarn and cloth from splinter-snags and dirt.



HERE'S WHAT HAPPENS when you stop scrubbing your floors and switch to economical Tennant "dry cleaning."

Microphoto at left shows typical surface of a scrubbed floor. Note how water has broken down top wood structure and caused rough, jagged, dirt-catching splinters. This makes floor hard to clean, and it breaks down rapidly under heavy traffic.

In contrast, microphoto of a Tennant "dry cleaned" floor (right) shows how the bright, smooth, protectively sealed floor resists dirt and wear . . . and is easily cleaned with minimum manpower.

Write Today! Learn how mechanized "dry cleaning" can save you money. Ask for new bulletin "HOW TO GET BETTER RESULTS IN TEXTILE FLOOR MAINTENANCE."

The way to finer floors
TENNANT
Floor Maintenance System

ESTABLISHED 1870

G. H. TENNANT CO.
2586 North Second Street
Minneapolis 11, Minnesota

OFFICES IN PRINCIPAL CITIES

Salts Most Likely to Form Insoluble Soaps

Calcium carbonate—$CaCO_3$
Calcium sulphate—$CaSO_4$
Calcium chloride—$CaCl_2$
Magnesium carbonate—$MgCO_3$
Magnesium sulphate—$MgSO_4$
Magnesium chloride—$MgCl_2$
Ferrous oxide—FeO
Ferrosoferric oxide—Fe_3O_4
Ferric oxide—Fe_2O_3
Aluminum oxide—Al_2O_3
Silica—SiO_2

THESE SALTS, when found in water supplies, are quite likely to cause the finisher trouble.

being used in processing, this loss can represent a serious item in cost, not to speak of the inferior results produced in finishing. Calcium and magnesium carbonates and chlorides react in the same manner as indicated for calcium sulphate in the foregoing equation. Insoluble soaps formed in processing baths are filtered out by the fabric and are retained thereby, and can be removed only by further additions to the liquor of soap or other detergents. In a plant using 100,000 gal. of water per day, about 150 lb. of soap will be neutralized for each grain of hardness before an efficient washing solution is obtained.

WATER SOFTENING. When small quantities of water are being used in small plants and the presence of alkali is not harmful, the difficulty may often be overcome by the use of a small amount of soda ash, sodium metasilicate, sodium metaphosphate, etc.

Many methods of water softening have been devised; but, so far as washing operations are concerned, the base-exchange or zeolite method of softening is, perhaps, the most successful. By this means, a water of zero hardness may be obtained by filtering the water through a zeolite bed where the calcium and magnesium ions are exchanged for sodium ions which render the sulphate, carbonate, and chloride radicals soluble in water.

When the filter bed has exchanged all its available sodium, it may be regenerated by the passage of a saturated brine solution through the bed to restore the sodium ionic content. Modern zeolite beds give good results in this respect. They are made up of more porous grains than formerly, and the flow of water is thereby increased, inducing quicker reaction and exchange together with a lessened degree of attrition of the bed.

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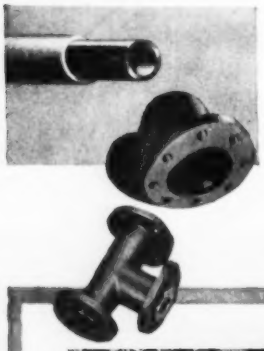

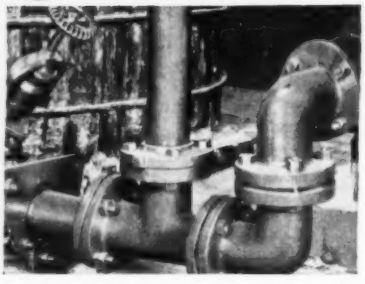

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such as the lime-soda process, do not give such satisfactory results so far as washing processes are concerned. When water is required for boiler-feed purposes in addition to washing operations, the lime-soda treatment is inadequate.

One of the most successful sodium salts for bringing about solution and removal of insoluble soaps is sodium hexametaphosphate ($Na_6P_6O_{18}$). This particular phosphate does not, however, behave as a simple salt, but has a complex reaction which may be indicated roughly by the formula $Na_4(Na_4P_6O_{18})$. In this complex molecule, part of the sodium radical may be replaced by calcium or magnesium to give a soluble product in accordance with the reaction shown in the following equation:

$$Na_2(Na_4P_6O_{18}) + 2CaCl_2 = 4NaCl + Na_2(Ca_2P_6O_{18})$$

The last term in this equation, containing both sodium and calcium, ions, represents a soluble complex salt. If this reaction is carried into practice with an insoluble metallic soap already formed by reaction of calcium and a fatty acid, the following equations indicate roughly what happens:

$$(C_{17}H_{35}COO)_2Ca + Na_2(Na_4P_6O_{18}) = 4C_{17}H_{35}COONa + Na_2(Ca_2P_6O_{18})$$

In other words, insoluble calcium soap and sodium hexametaphosphate form soluble sodium soap and water-soluble calcium-sodium complex.

Such a soluble complex is exceedingly useful in many washing operations. In the first place, insoluble soaps in the form of scums, etc., are dissolved and dispersed. Secondly, insoluble curdy deposits which have become entrained in the fabric are dissolved and removed. However, these complex salts are not stable under all conditions; boiling liquors destroy their efficiency, and they must not be used in acid mediums.

S.F.A. PRODUCTS. Other products which are used in the dispersion and removal of insoluble soaps are the sulphonated-fatty-alcohol groups. It is claimed that they protect liquors and materials against the formation of insoluble soaps. Their emulsifying power is demonstrated in the presence of oily matter, particularly in wool scouring, where they produce a high degree of dispersion of the oils besides preventing oily scum. These materials are best used in conjunction with soap liquors and are generally not recommended as scouring agents when used alone.

In all scouring processes, the presence of insoluble salts in the water is generally sufficient to account for most of the insoluble soap formation

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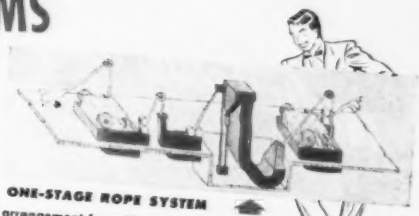

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An ideal arrangement for mills that require weekly production of 200-500 thousand yards of goods averaging 3 yards pound or lighter

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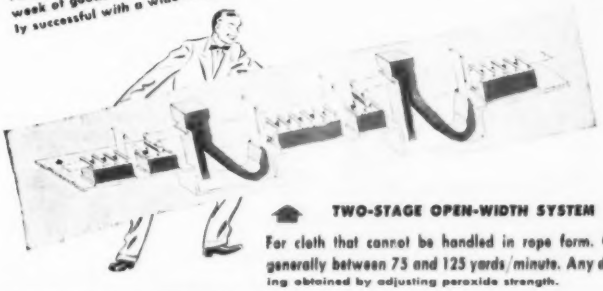

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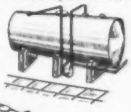

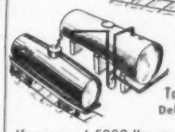

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encountered. This action may be intensified, however, by other deposits such as oily matter in wool scouring, organic and algaeic matter in improperly treated water supplies, etc., together with the possibility of other metallic impurities detached from the fabrics themselves in washing operations.

BLEACHING AND SCOURING. Lime salts used either in pressure boiling or in the actual bleaching with calcium hypochlorite may start trouble. In lime boiling under pressure, calcium oxide (Ca 0) is used. Residues of this salt may give rise to the formation of further calcium salts at later stages of processing, such as the souring process with sulphuric acid (H_2SO_4). This gives rise to calcium sulphate ($CaSO_4$) according to the equation:

$$CaO + H_2SO_4 = CaSO_4 + H_2O.$$

Starch is used in sizing of goods prior to bleaching; starch may also be used later in printing thickeners or in finishing agents. A reaction takes place between calcium and starch to give an insoluble starch complex which is very difficult to remove, either by caustic alkalies or by diastatic enzymes. Other metallic radicals present as insoluble salts in water react in a similar manner with starch. The result is that calcium salts may be held in the cloth and give rise to resist problems in dyeing, printing, etc., besides the possibility of the formation of insoluble soaps and reduction in washing and detergent efficiency of soap liquors at later stages. When resin soaps are used, the unfavorable reactions already outlined are likely to be increased.

The presence of complex bodies such as those indicated may be traced by the appearance, later on, of yellowish stains in goods which have been stored for some time, or which have been steamed under pressure for the fixation of printed colors. When resist problems are encountered, the trouble may be traced to its source and remedies applied there, such as the avoidance of lime boiling and the clearance from the goods of all starchy matter by malting, etc., before alkali boiling and subsequent bleaching are carried out.

RAYON PROCESSING. In the processing of cotton, linen, wool, etc., the use of water of zero hardness is not absolutely necessary, provided some other means (some of which have been indicated) are used to disperse the undesirable deposits. On the other hand, rayon processing requires, for the preservation of the quality of the product, a water of zero hardness. Waters with only one or two grains

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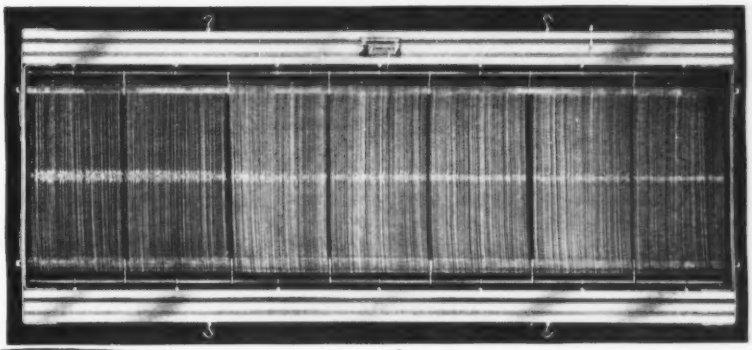

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of hardness may give rise to the formation of colloidal calcium, magnesium, and aluminum soaps which are absorbed by rayon fibers to give rise to loss of luster which reduces the quality of the goods. Loss is specially found in the processing of rayon yarn in skein form, where even small amounts of insoluble soap formed in scouring baths are trapped and held by the yarn. Thorough rinsing and flushing in scouring liquors are not possible in these circumstances, and the fault may not be discovered until the goods are finally dried. At that time dull patches will appear. When such yarns are used in woven effects, the dull patches are likely to reappear in various places.

Further dulling of viscose-rayon skeins may be brought about by excessive handling, and, in the case of azoic-dyed goods, by boiling in soap solutions for the removal of surplus dyes and the brightening of shades. Excessive boiling at this point should be avoided, as otherwise the phenomena of "blinding" will occur. In all boiling baths of this type in which the presence of insoluble soap is likely, assistants (such as sodium hexametaphosphate) designed to solubilize such products will breakdown under boiling.

CELLULOSE-ACETATE DYEING. One of the troubles encountered in cellulose-acetate (estron) dyeing is the formation of specks by aggregation of dye particles in the dye bath under unfavorable conditions. These specks become attached to and are absorbed by the fabric and may give rise to much trouble. These difficulties are intensified in the presence of insoluble soaps which form scums on the surface of the dye baths. Cellulose-acetate dyeing requires large amounts of soap in the bath to bring about complete dye dispersion. The soap bath acts not only as a dispersing and emulsifying agent but also as a wetting agent. All of these properties are inhibited when insoluble soaps are formed. Any of the corrective methods which have been outlined may be applied safely here, except the use of soda ash, which would bring about partial saponification of the cellulose acetate and change its affinity for the dyes.

The trouble outlined is much more likely to occur in beck and kettle dyeing than in jig dyeing; and, as most cellulose-acetate fabrics are dyed on reels, special precautions must be taken to prevent formation of insoluble soaps in the form of scums, etc. In reel dyeing, the bulk of the material is lying in the liquor for most of the time of dyeing, since due to the position of the reel itself only a small

how SYNERGISTIC ACTION gives you higher detergency at lower costs...

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Cleaning power of tetrasodium pyrophosphate

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Look into the possibilities of synergistic action in reducing your costs while increasing the efficiency of your cleaning and scouring operations. For details, contact the nearest Monsanto Sales Office or write: MONSANTO CHEMICAL COMPANY, Desk D, Phosphate Division, 1780 South Second Street, St. Louis 4, Missouri.

DISTRICT SALES OFFICES: Birmingham, Boston, Charlotte, Chicago, Cincinnati, Cleveland, Detroit, Los Angeles, New York, Philadelphia, Portland, Ore., San Francisco, Seattle. In Canada, Monsanto (Canada) Ltd., Montreal.

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proportion is passing over the reel at any given moment. Insoluble soap scums, therefore, are more likely to settle, together with entrained dyestuff, on exposed parts of the fabric which have risen above the surface of the liquor.

WOOL SCOURING. In the scouring of raw wool, when large amounts of fatty matter and soluble salts have to be removed from the wool by alkaline and soap scouring, special care must be exercised to keep the scouring baths in good condition. Use of hard water must be avoided, as the presence of insoluble calcium and magnesium salts will again insolubilize the soaps. Such salts will react not only with the fatty matter of the soap liquor but also with the wool fat itself and will give rise to retention of such insoluble fatty precipitates as will later cause trouble in processing and finishing. When such wool is stored prior to further processing, the presence of decomposed fatty precipitates may readily be detected by the increasingly bad odor of the material, which is said to be much worse with magnesium than with calcium salts. Use of soft water will avoid this risk.

In the acid dyeing of wool with acetic or sulphuric acid, the presence of insoluble soaps and fatty precipitates from the original scouring will liberate fatty matter by acid reaction. This fatty matter is absorbed and retained by the fiber unless subsequent scouring and washing is very efficient.

Presence of iron, calcium, and magnesium from water supplies and pipe lines will give rise to the dulling of shades by reaction with the dyes toward which such salts act as mordants. Dull shades are also caused by insoluble soaps held in the fiber, due largely to loss of luster and absorbency. Such dyeings are more likely to bleed and give rise to fastness trouble, such as soiling of white effects, rubbing and bleeding in finishing, etc.

As wool is not affected detrimentally by the presence of mineral acid, the calcium or insoluble soaps formed in any of the ways suggested may be removed by reaction in a dilute hydrochloric acid bath, $\frac{1}{4}$ to $\frac{1}{2}$ of 1% strength, used cold. The acid brings about solubilization of the calcium in the form of calcium chloride ($CaCl_2$). The treatment with acid is followed by warm rinsing to remove the soluble calcium salts and by a further scouring treatment in soda ash plus an organic solvent, such as a highly sulphonated oil. This latter treatment removes the free fatty acids liberated from the calcium soap and complex.

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MAY · 1949

CARD CLOTHING NEWS and views

WRITTEN MONTHLY BY E. A. SNAPE, JR., PRESIDENT **Benjamin Booth Company** PHILA. PA.

RESILIENCY...That Wanted Feature in Card Clothing...Is Provided in STRIP-O-MATIC* .

By showing you a side view of Booth's new **STRIP-O-MATIC** Card Clothing we hope to explain *how* resiliency and other advantages are provided.

Note first the foundation (Clear Run) of **STRIP-O-MATIC**. It is composed of a solid base of several woven plies which provides strength plus thickness of pressed felt over the base. The felt forms a cushion allowing the wire required movement for resiliency, and at the same time supporting it very firmly in its original position. This is so even though there is stress and strain caused by matted and tangled fibres or foreign matter such as burrs, shives, sticks, etc.

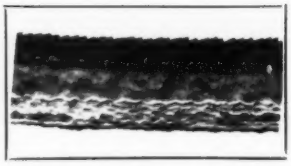
Next is the layer of smooth, but very tough plastic, which is over the felt. It is elastic, like rubber, and its movement coincides with the felt

We have just received word of the *very satisfactory* use of STRIP-O-MATIC on Nylon and Nylon waste.

beneath it as the teeth flex in various directions always returning to their original position! Thus, contact of the wire with the fibres is less severe, which in turn means less damage and breakage of fibres.

The shape of the wire is streamlined, having a definite ratio of length to width, enabling us to give you sufficient points transversely while eliminating points longitudi-

*Pat. applied for.



nally. It will neither lose "pitch" nor bend backwards even though there are fewer teeth per inch lengthwise.

The plastic face is oil and waterproof, permitting the use of emulsions containing oil and water or both to be used on the stock. Even grease wool will not affect it. To repeat: the plastic face is resilient and allows the teeth to flex!

STRIP-O-MATIC is, we feel at Booth, the type of Card Clothing all carders and superintendents have been seeking for years.

STRIP-O-MATIC has been designed to run with a minimum of stripping and at the same time card better and last longer than the conventional type.

Have you tried the new **STRIP-O-MATIC** yet? Many have, and we wish you would compare it too. A brief note to Booth asking full details will receive prompt reply.

Thanks,

E. A. Snape Jr.

President,

Benjamin Booth Company

Piece-Dyed Worsteds

(*Continued from page 141*)

make certain that the heddles are evenly spaced before starting their looms.

The filling stop motion may cause marks if the feeler wires are bent or sharp. A shuttle thrown crooked striking the wires will also cause trouble.

Harness timing is very important to help prevent filling kinks when weaving gabardines and fine serges. Harness cylinders should be set ahead so that the harnesses are crossing when the lay is 2¼ to 3 in. from front center. When making this adjustment on the loom, the lock-knife timing must also be checked. The lock knife must be fully in before the first tooth of the bottom cylinder gear engages the vibrator gear; otherwise the lever may lift and not move the harness. The result will be harness skips.

Kinks may also be caused by lively filling which is not properly steamed or conditioned.

Small skips and floats are imperfections which are characteristic when weaving fabrics with a large number of warp ends. They may be caused by improper sizing which allows the warp ends to stick together and not form a true warp shed in weaving. Adjusting the loom whiproll so that the warp ends have the same tension raised or lowered will help prevent skips and small floats.

Five Timestudy Uses

(*Continued from page 135*)

administration will require much more work from management. Sure, the employee is interested in earning more money. But that interest must be satisfied or the employees become disgruntled. Obviously, management must use the interest by affording full incentive opportunities.

The payment of average earnings or non-incentive differentials are both fundamentally wrong. They are payments for incentive productions that are not turned out. The basic error on such fringe payments is the unfairness to those who do produce on incentive an amount of output equivalent to their earnings.

REDUCE LEARNING TIME. Timestudy incentives have a great many advantages, such as reducing the learning time of new employees or of new operations. Timestudy gives a detailed description of just how the work is to be done and the time to be allowed. Using these details as a basis for instruction, the employee is taught what elements to perform and their proper sequence. Use of these details means

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No. 8 of a series

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METALLIZED DYES FIND MANY USES IN WOOL DYEING

Calcofast* wool dyes, or metallized dyes, offer many advantages to the dyer and general public. They produce consistently level uniform shades

with excellent fastness to light, washing, sea water, perspiration, carbonizing and fulling. They are especially adapted to the dyeing of wool for sportswear fabrics, suiting, neckwear, knitting yarns for sweaters or bathing suits, and hosiery yarns.

Calcofast wool dyes are recommended for a full range of shades from pastels to deep, rich tones. They can be applied to carbonized wool cloth or stock, without neutralization, with rinsing as the only predyeing treatment necessary.

If additional brightness is required, selected acid dyes may be applied in the same bath with Calcofast wool dyes. The proper selection of the acid dyes to be used is important here and we suggest contacting your Calco representative for assistance.

Calcofast Wool Bordeaux RB Conc. is one of the outstanding metallized dyes, useful as a base shade for fast reds, crimsons, burgundies and maroons.

Calcofast Wool Blue 2G and Calcofast Wool Yellow N are also popular as blue and yellow elements, and Calcofast Wool Pink N is excellent for a range of pink shades.

The entire line of Calcofast wool dyes offers wool dyers good fastness, pleasing shades and ease of application to all types of wool materials.

*TRADEMARK

Tips on Selection of Dyes

Accurate data on the dyeing behavior of direct dyes is important in the economical production of level, well-penetrated dyeings of maximum fastness, especially on material containing mixed fibers and for application in low ratios of fiber to dyebath.

From the viewpoint of dyeing behavior, direct dyes which are to be used in other than extremely high-speed continuous operations should be selected; first, for ability to level up rapidly, and, secondly, for a slow speed of exhaust.

Three basic factors in dyeing behavior are:

- The initial degree of exhaust of the dye on the fiber
- The diffusion rate of the dye within the fiber
- The type of equilibrium between dye, fiber and dyebath.

Care should be taken to avoid those direct dyes which exhaust quickly and which diffuse slowly within the fiber and are unable to migrate with facility between fiber and dyebath.

New Printing Dyes

During the past year quite a number of new additions have been made to the line of Calco printing dyes in the category of vat dyes, soluble vat dyes and stabilized azoics. They are very desirable for either roller printing or screen printing, and are unique in offering very superior light fastness to that obtainable by the usual vat dyes.

Every print shop should investigate the superior qualities of these dyes for their production.

FOR THE TEXTILE BOOKSHELF

Application and Properties of Vat Dyes (Calco Technical Bulletin No. 802)—Contains information about vat dyeing procedure and practical methods of applying Calco Vat Dyes; supported by tables giving fastness properties, relative strengths of Calco Vat Dyes; reduction and dyeing data. The reduction and dyeing behavior of individual vat dyes is discussed.

"Scientific Study of Rayon Dyeing" (Calco Technical Bulletin No. 806)—by G. L. Royer, Research Department. A review of work carried on at Calco on the study of the factors which affect the dyeing of rayon.

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less time is required to learn the operation because there is less "unlearning" and correcting to be done. Also, with incentive, there is an increase in earnings as soon as production exceeds the standard amount.

Experiences in the rates of learning permit establishing curves for learning typical operations. These curves can be used to measure the results obtained with new people and with older employees that may be transferred to new work. If the progress does not come up to expectancy, something is wrong. Maybe the supervisor has done a poor job of training; perhaps the employee is poorly adapted to the job.

OBJECTIVE MEASURE. The third point is that measurement of performance should not be limited to newcomers. It applies even more importantly to the regular work force. It is a use of timestudy that management can ill afford to be without. Performance measurement by timestudy standards provides an objective yardstick for gaging applied skill and ability.

In performance measurement there is a regular indicator of what is being done, daily or weekly, as it may be computed. Both management and employee know where they stand Strangely enough, this type of measure has uncovered many a good man that was not recognized because he had not "blown his own horn."

The chance for advancement ranks higher than good pay in the desires of employees as reported in morale surveys. Therefore, upgrading and promotion are vital factors. So also are any objective measures that point out the right man to advance. Good performance on a job by itself is not proof of capacity for the next one up.

Measures growing out of timestudy can be used for gaging the performances of supervisors. Three such measures seem important: first, the performance of a supervisor's group while on incentives; second, the percent of the total time worked on incentive; third, the cost of production. This last is not to be confused with ordinary costs. It is the total payroll of the department by the standard minutes of output: good pieces multiplied by standard times.

These three measures can be used to compare supervisory results. They can be used to determine incentive rewards for supervisors.

INDIRECT COVERAGE. The fourth major point deals with incentive for indirect labor. Here management has not made much use of timestudy, generally speaking. The reason given is that it costs too much. Maybe so, in

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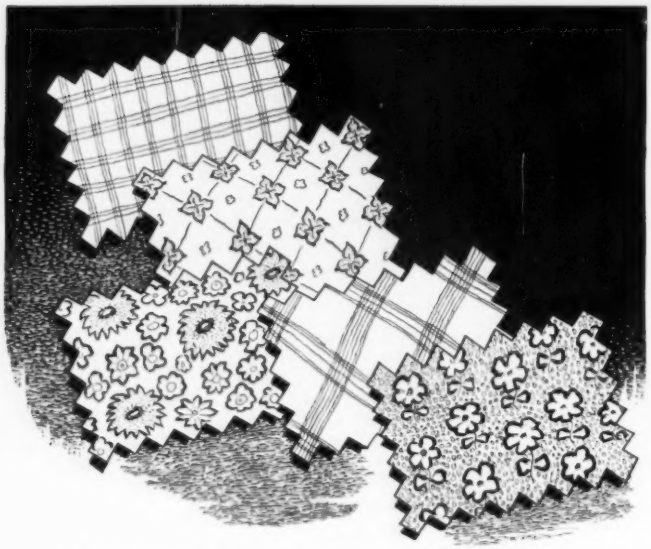

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terms of usual practices. It is not practicable to have a timestudy man following each maintenance man. Taking an individual timestudy of each job is not called for, even when the operation is repetitive. Many studies previously taken should be compiled into standard data. From these summarized results, one can set work standards. This method can be used to measure indirect labor economically.

The point is that most persons have neglected to measure indirect operations and provide incentives. They have failed to use timestudy as extensively as can be done. Failing to use timestudy has resulted in some firms agreeing to pay flat increases to non-incentive people. This is unfair to those working on incentive. More particularly, these payments close differentials. In so doing, they markedly reduce the incentive in the incentive. Hence, this remedy is no solution.

Paying indirect employees a percentage of that earned by the direct is no better. Timestudy is the proper solution. Standard data is the method of using timestudy results that makes the measurement of indirect both practical and economical.

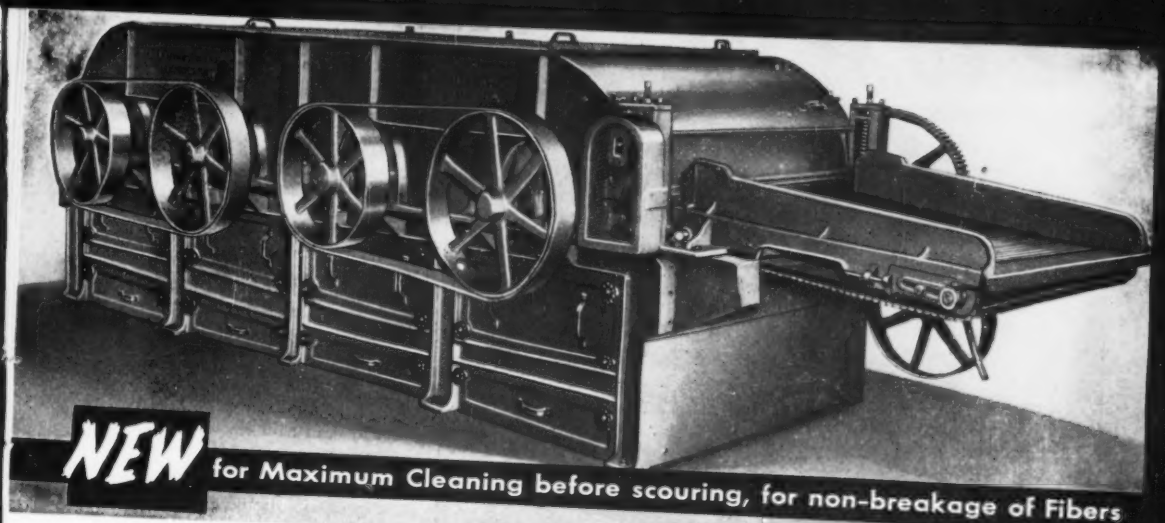
COST CONTROL. The fifth topic deals with cost control in its several divisions. First is the direct labor cost. This part of cost is almost constant under a modern one-for-one incentive plan when the coverage is what it should be.

Of course, mills can reduce costs by going to work on the management errors mentioned earlier. Another form of cost control involves analytical studies of overhead. Analysis is necessary for those who collect and apply overhead as a factor. Such a factor is incorrect in many businesses because diversified products are made and sold. The overhead factor used may fit the average, but it is certainly not right for the extremes.

An analysis should be made with the definite purpose of finding out where the detailed costs of overhead are different for one product as distinguished from another. Some amazing results will show up.

Timestudy comes into the computation of overhead when measuring production in terms of standard time. Standard time is the proper basis on which to apply overhead. The dollar base in in error. So is actual time or machine hours.

The analytical study of overhead costs as they are actually created differently for the several products may bring out the fact that the profit or loss on certain lines is not what had been supposed. That result follows from any breaking down of an average. The new knowledge may be disturb-



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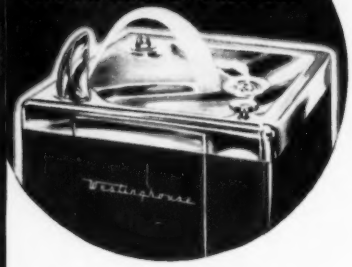

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ing but is a fact necessary to meet competition.

INCENTIVE. Under a sound incentive administration, earnings should be 20 to 30% above the base rate. They are fairly regular with an individual. Under a modern one-for-one plan, costs and production are quite uniform.

Very few tools of management are more useful than those which help to raise the percent of correct predictions. Consequently, management has a very valuable asset in a soundly administered incentive plan. To be sound it must cover practically all the work. It must be fair, and the incentive earnings must be up to expectancy. The delays and extra work must be kept to a practical minimum. When these conditions are present, management gains the real benefits in good timestudy with incentive. The end use of timestudy is the capacity afforded management to predict costs and deliveries with a much smaller margin of error and with an increase in confidence.

Electronic Controls

(*Continued from page 137*)

dcr type. Obviously, for uniform drying, the cylinders should be kept at a uniform temperature.

The most commonly used type of cylinder-temperature control is a pressure control. It is a simple and inexpensive one. It maintains the steam at a constant pressure and thus is designed to maintain the cylinder at a constant temperature.

MOISTURE CONTROL. As to actual regain control, the so-called moisture meters, regain controllers, moisture graphs, etc., are widely accepted. There are about 800 of such electronic instruments in everyday operation.

The measurement of yarn regain on the slasher is fundamentally simple. Actually, the instrument measures the resistance to current flow through the yarn. Since the resistance of the yarn varies with the moisture content, it is possible, and has been proved practicable, to calibrate such an instrument in terms of regain or percentage of moisture. The big problem in the application of that kind of instrument as an automatic control came in the solution of what form the control should take.

Attempts were made to have the moisture-control instrument regulate and adjust the drying capacity of the slasher by changing the cylinder pressure. Such attempts were not successful for a number of reasons. The two principal ones were, first, lack of sensi-

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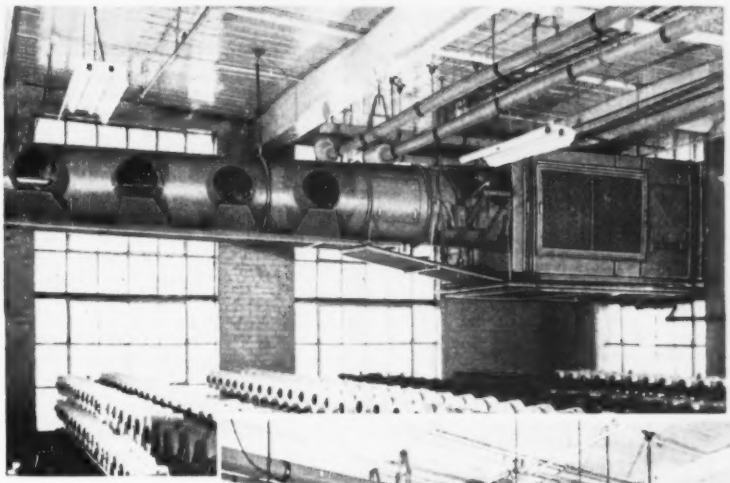

The Bahnson Humiduct provides a basic unit system for evaporative cooling and controlled humidity to which refrigerative cooling, heating, air filtering in any combination can always be added. The Bahnson Humiduct unit is both flexible and economical, can be expanded or easily moved. No fixed, built-in installation or expensive apparatus housing required for air handling equipment.

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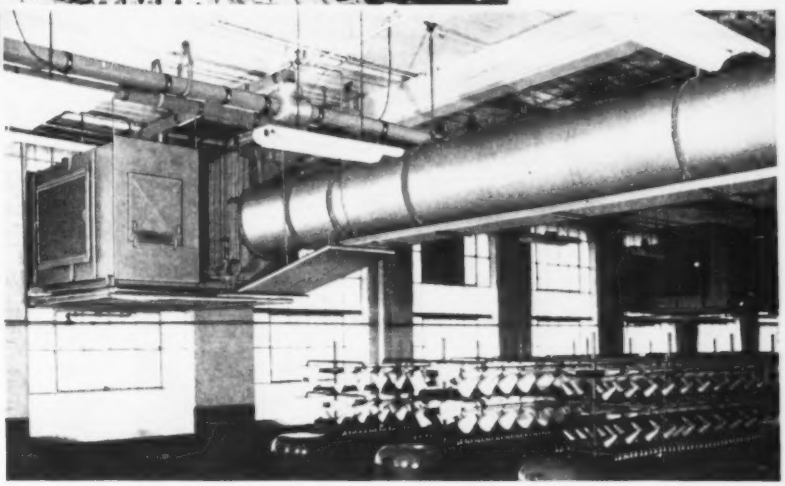

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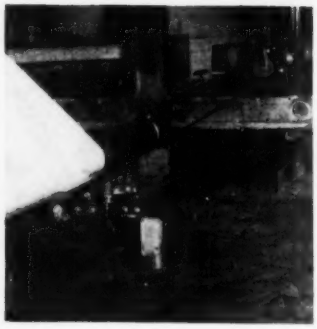


MOISTURE-CONTROL INSTRUMENTATION combines the galvanometer principle of pick-up roll with an electronic instrument.

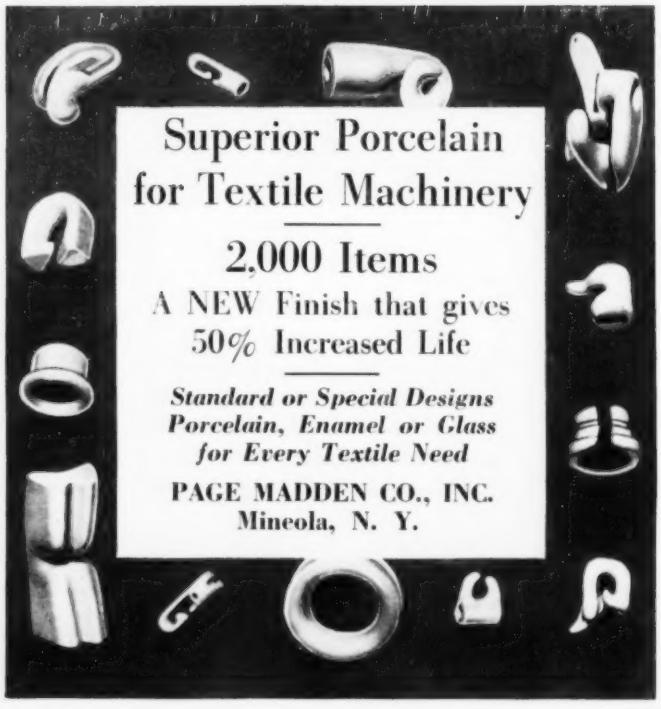
tivity in the measuring instrument and, second, the lag in response of the cylinders to a change in steam pressure of temperature. That lag is due to the tremendous amount of heat stored in the metal of those cylinders.

On cotton slashers, particularly, there are 7-ft. and 5-ft. cylinders, or sometimes two 7-ft. cylinders. A tremendous amount of heat is stored in the cylinders; and before the drying capacity can be changed, that heat has to be dissipated.

NEW MOISTURE CONTROL. In recent months, much progress has been made by at least one instrument manufacturer in moisture-control apparatus. An instrument is now available which has a measuring sensitivity of the sort mentioned in the opening sentence. It is extremely fast in its response to variation.

As a result of improvements in the measuring system and in the speed of operation of this instrument, there is some definite indication now that the problem of speed regulation or moisture control of warps in the slashing operation will be simplified, and it may be found practicable to eliminate the complicated and very expensive variable-speed drives. It should not be inferred that the variable-speed drives will ever be entirely eliminated; operators will continue to need some instrument to regulate the speed of the slasher to the varying warps that are being run. But there are specific advantages in regulating the moisture content of warps without varying the speed of the slasher from minute to minute. In the first place, there can be determined the optimum maximum operating speed; and controls can be set to that speed. The mill will, therefore, get 100% efficiency out of the slasher.

With the presently used slasher-control system, the speed varies; and, unfortunately, the slasher runs most



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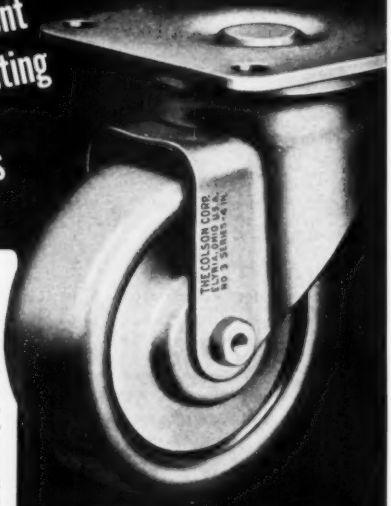

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of the time on the low side of the speed range desired. Consequently, the mill loses production. It may not be a serious loss; but if it is a matter of 4 or 5 yd. a minute, it runs up to a considerable amount. This new control will make for better production methods on the slasher.

AIR CONDITIONING. Due to requirements by mills, some air-conditioning engineers in the past found themselves in an embarrassing spot because they had sold equipment guaranteed to produce certain results which had a difficult time doing it. Finally, they realized that the reason they could not go to a mill owner and say: "We will install an air-conditioning system and guarantee it to hold the humidity within 2% plus or minus and to hold the temperature to within 1° plus or minus" was because they had not used the type of equipment—and particularly of control equipment—necessary to produce that result.

What was being done was that control instruments devised for restaurants, office buildings, schoolhouses, etc. were being used in industrial installations; and they just would not work.

Today, the equipment to produce the results quoted is available at reasonable prices, is dependable, can be easily maintained by mill personnel with just a little bit of training. Credit for the change is due to electronic temperature and humidity instruments as well as refined control mechanisms which are capable of recognizing very small changes in room conditions and doing something about them before it is too late.

REMOTE SYSTEM. Very recently, the first practical and successful remote relative-humidity recording system has been placed into operation. It is a system whereby a recording instrument is remotely located from the point of measurement and continuously records relative humidity accurately.

The instrument used can measure as many as eight relative-humidity control stations and eight temperature-control stations simultaneously and print the measurements on a chart. It is possible for the instrument to be located a mile or two from the rooms in which the measurements are being taken. What that is going to lead to is still to be determined.

The achievement has been possible only through the use of electronic instruments. With the new relative-humidity measuring devices which are now coming on the market, it will be possible to guarantee to hold relative

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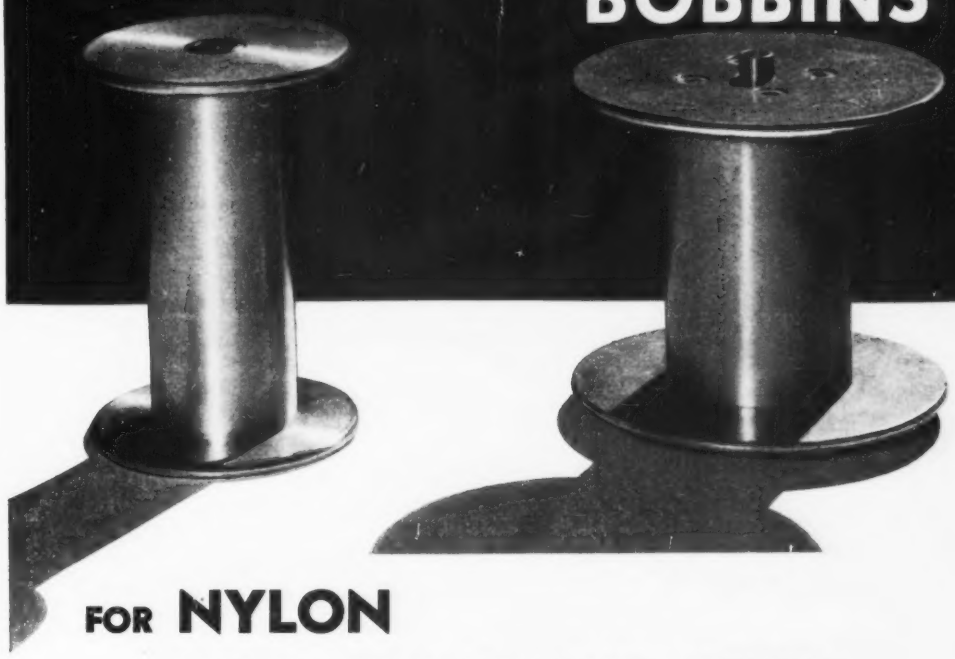

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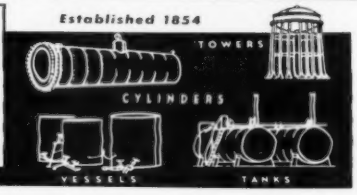


humidities in weave rooms, for example, well within 1% plus or minus a set point. It was only three or four years ago when it was extremely difficult to hold relative humidities to within 3% plus or minus.

Combination Throwing

(*Continued from page 139*)

should rise and fall with the up and down stroke of the traverse to help level off extremes in tension. The guide eye should be centered above the spindle at all times to prevent drag on the yarn.

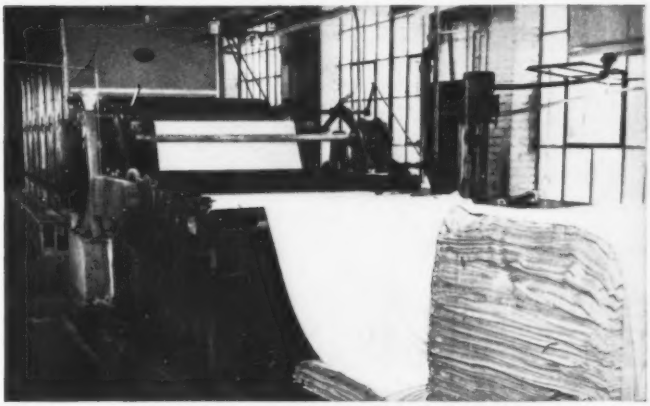
The rings used also should be sized according to the diameter of the head of the spool used. Production is wasted if large rings are used on small bobbins. Rings too small will cause travelers to hit the bobbin heads, especially when rings and bobbins are not perfectly concentric. The rings should be centered at all times, as rings sufficiently out of line cause fuzzy yarn, or may even break the running end. Breaks at the ring are particularly troublesome, as they are likely to cause carry-overs. The result is many adjoining ends coming down and flying waste that is likely to be twisted into running yarn. Stop motions below the feed rolls are sometimes used, but they cannot be counted upon to act when ends break at the ring. Rings should be oiled regularly, and the wicks changed often. If wicks are not changed, they become hard and will not pass oil.

Travelers play an essential part in manufacturing combination yarns. The type or size and style to use, unfortunately, can only be worked out by making running tests. The main thing is to have a traveler of the right size and style so as not to break the filaments and to give a firm spool. Too little tension is sure to cause corkscrew, or spiral, yarn, if not actual kinks in the crepe component. It is possible to obtain travelers that will run one week without changing. The rings should be lubricated daily, or even more often, whatever is necessary to insure good traveler operation.

When doffing out full spools on the doubler-twister, care should be used so as not to dirty the yarn. Care should also be used in threading up at the start of the spool so as not to have any dirty tails or laps on the spool. A spool that has a slot in the base will permit the end to start winding around the spool without becoming dirty.

Some plants steam or condition the yarn after it is initially combined on the doubler-twister, before it goes to the up-twisters for final twisting. This steaming is done to prevent the

Memo on Modernization



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yarn from snarling or kinking. However, the operation requires bakelite-head spools and treated barrels to withstand the steam. The purpose of steaming is to set the twist in the crepe, since it has a tendency to become lively during subsequent operations.

Any plant experiencing kinks on final twisting, should steam or set the twist on the initially plied combination before putting it on the up-twisters. A short steaming time of approximately 10 min. is sufficient for the purpose.

PACKAGE-TO-PACKAGE. Real money can be saved in manufacturing combination yarns by using a package-to-package procedure as outlined in the following.

For a pound-package combination set-up, start with (1) magazined cones of acetate rayon and (2) half-pound bobbins of crepe. (For 24-oz. package running, of course, crepe bobbins should hold 12 oz. net.)

After the doubler-twisters have been creeled and started, do not stop them for doffing. Merely doff each spindle as the crepe package runs out, and replenish the crepe bobbin. Of course, this means that stop-motions must be in good working order—as they always should be.

The procedure of stopping off whole machines and breaking out ends is not only wasteful of time, as any good plant engineer can confirm, but also damages quality, especially in regard to causing many unnecessary knots to be put in the yarn.

The ring-twister package should, by all means, be balanced with the up-twister. Any mill that has not already balanced packages on its up-twisters is 10 to 20 years behind the times.

The procedure outlined is best carried out through use of doffing trucks, instead of supplies of bobbins and yarns being placed on machines. Use of doffing trucks saves one or two handling operations, saves operators' work time, and helps keep loose ends from becoming twisted into running yarn.

Details of doff trucks must be worked out according to the requirements of each plant. They should pay for themselves in a few months' time through eliminating bobbin boys and saving walk time of spinners, not counting the really big savings possible in package-to-package operation.

Whenever headless or single-headed take-up bobbins with creeling tails can be used on up-twisters, great savings are possible in eliminating redrawing. Headless packages to date, however, have resulted in higher percentages of waste and in need for special handling of the yarn produced.

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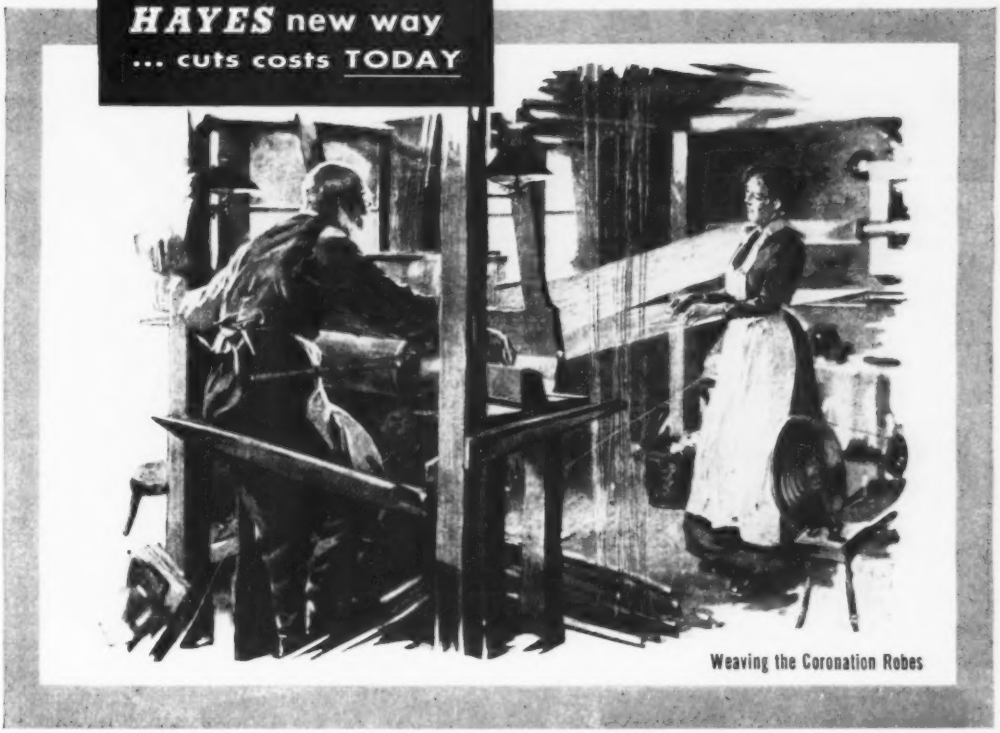

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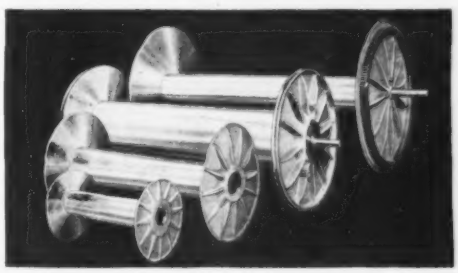

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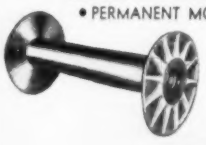

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Glen Plaids

(Continued from page 127)

If the Glen plaid is to be decorated, care must be taken to place these decorative colors in proper sequence, warp and filling. A light decoration should be part of the light portion of the effect, while a darker-colored decoration should be part of the dark portion of the effect. Failure to follow this rule will result in either light or dark lines in the pattern which could spoil the entire effect.

Whether the decorative yarn replaces a ground yarn depends on the diameter of the decorative yarn and how it is woven in.

The Glen plaid shown in Fig. 1 is a 12-oz. fabric. The layout is 3,800 ends of 2/32s worsted, reeded 68 in. wide at the loom, and 56 picks per inch of 1/18s at the loom. The cloth finishes 58 in. wide (which gives about 65 ends per inch), and the finished picks are 58 per inch.

The basic weave is the 4-harness twill, 2 up, 2 down, as shown in Fig. 2. The dressing pattern is shown in Fig. 3, and the filling pattern in Fig. 4. The weave, drawing-in draft, and reeding are given in Fig. 5.

Fig. 6, with dark warp and dark filling shaded, shows the 2-and-2 hairline effect when started properly. Fig. 7 shows the result of starting on the wrong bar. The clippings show the right and wrong effects in the cloth.

One finished pattern repeat measures 2¼ in. in width; 58-in. finished width requires 28 patterns, in the warp.

The finished filling pattern should measure 2½ in. in length. Thus, the picks or bars in the filling pattern should be the finished picks per inch, 58 times the desired length, 2½ in., or 145 bars.

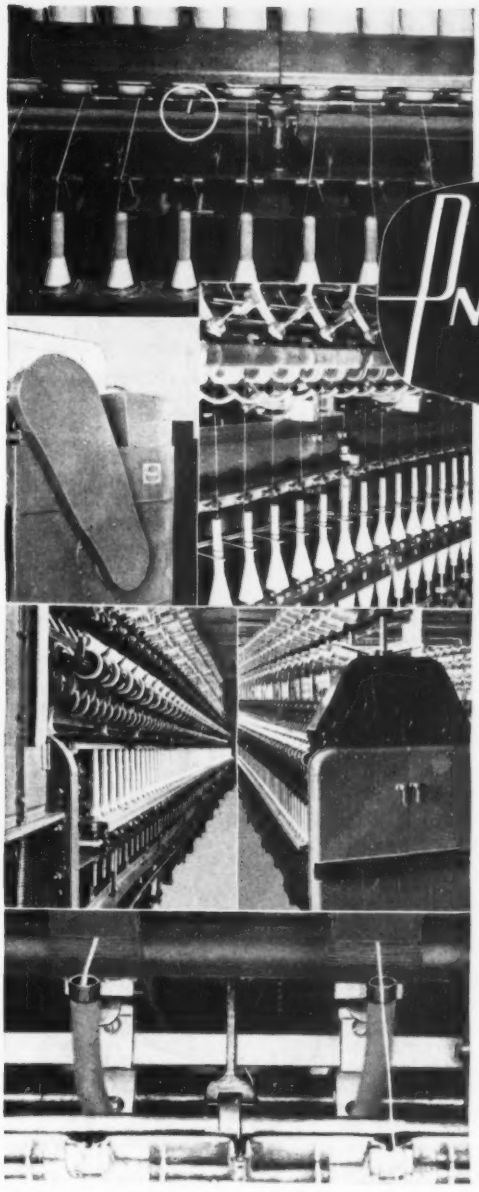
Concerning the finish that is desirable for a Glen plaid, it is worth noting that over-fulling is to be avoided. A slight nap, deep in the twill, will add to the hand; but the chief concern should be to keep the color effect sharp without permitting a bare, raw appearance.

Pattern Wheels

(Continued from page 114)

mined by the positive wheel. Let the machine make two complete revolutions, setting all the pattern wheels so that the first slot of each will engage the same needle.

A portion of the impressions that widths 1 and 2 of all the odd-numbered positive wheels make on the cloth, will show that wheel 1 is the lowest wheel, that wheel 3 comes immediately above it, that wheel 5 comes above wheel 3, etc., until wheel 31 or



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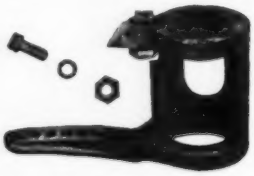

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the last odd-numbered wheel is reached. Wheel 31 is the highest wheel in the "layer" or "ribbon."

The pattern area for this new set-up would be either 16 courses high and 96 needles long or 32 courses high and 48 needles long, depending upon whether the pattern area was chosen in a horizontal or vertical direction. Since each width represents a portion of a pattern wheel, if the pattern area is chosen in a horizontal direction, the slots in each wheel would be filled by just reading across the horizontal line of squares that matches the wheel, starting with width 1 and completing with width 2.

VERTICAL AREAS. If the pattern area is chosen in a vertical direction, the slots in each wheel would be filled by reading the correct horizontal line of squares in width 1 and then completing the reading in the corresponding horizontal line of the upper portion of the pattern area, or width 2.

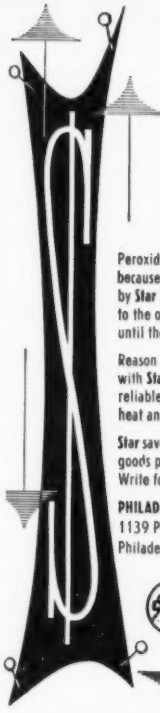
For example, width 1 of wheel 1 would be read on the first line of width 1 or the lower portion of the pattern area. This portion, of course, would only fill one-half of the wheel. Therefore, the reading for wheel 1 would be completed on the lowest or first line of width 2 the upper portion of the pattern area.

Note in Fig. 7 that in outlining one vertical type pattern area, such an area *B*, identical areas will appear to the left and the right, a fixed multiple of courses higher or lower. In outlining a series of these vertical type pattern areas, note that they rise or fall (depending on the optical approach) to the left and right. The result is called the rise and fall of a pattern area and gives a staggered or spiral effect common in pattern-wheel work.

The effect often determines the type of pattern and pattern area chosen, since it is considered an advantage by pattern designers to stagger patterns to avoid monotonous vertical in-line repetitions. The angles at which the pattern areas rise and fall and the horizontal distance they are offset from each other are dependent upon the order in which the pattern widths pile up to make up the pattern area.

Understanding the theory of pattern wheel knitting is needed to find the pattern width for any combination of cylinder and wheels on pattern-wheel machines. The following series of short, simple steps covers the arithmetical calculations involved.

PATTERN-AREA WIDTHS. The procedure for determining the pattern area for any combination of cylinder and wheels on Supreme pattern wheel knitting machines requires the knitter



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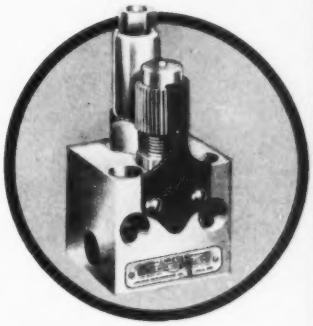

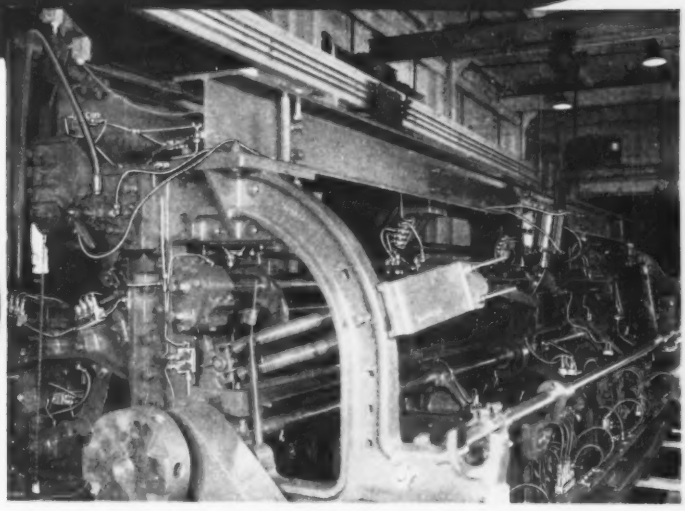

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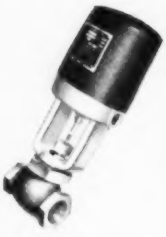

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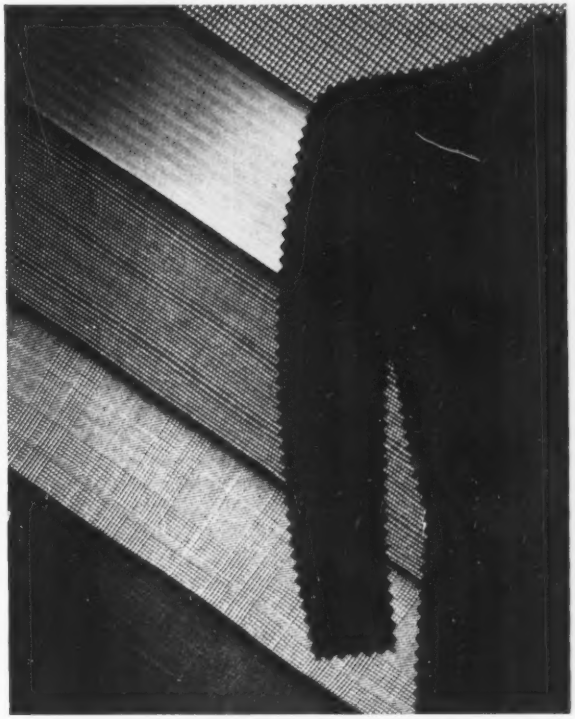

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first to calculate the width or widths of the pattern area from the following information:

a. The number of needles in the cylinder.

b. The number of cuts in the pattern wheel.

c. The number of feeds on the machine.

To clarify the arithmetic, consider four different combinations of cylinders and wheels and follow the calculations in each step of each case.

1. The first step is to divide the number of needles in the cylinder by the number of cuts in the pattern wheel. The important figure is the remainder or the amount left over after the division is completed. Call this remainder the primary pattern width. In the case in which the number of cuts in the wheel divides evenly into the number of needles in the cylinder and there is no remainder, call the number of cuts in the pattern wheel the primary pattern width.

Now follows the division for four typical cases. Case 1—1,020 needles divided by 102 cuts in pattern wheel results in a quotient of 10 with no remainder; so the primary pattern width is 102. Case 2—1,008 needles divided by 96 cuts in pattern wheel results in a quotient of 10 with a remainder of 48; so the primary pattern width is 48. Case 3—640 needles divided by 100 cuts in pattern wheel results in a quotient of 6 with a remainder of 40; so the primary pattern width is 40. Case 4—1,380 needles divided by 130 cuts in pattern wheel results in a quotient of 10 with a remainder of 80; so the primary pattern width is 80.

2. The second step is to divide the number of cuts in the pattern wheel by the primary pattern width. The quotient will be the number of primary widths found in one pattern wheel while the remainder, if any, will be the secondary pattern width found in the pattern wheel. The total number of primary pattern widths together with the secondary pattern width make up the pattern wheel proper, just as the total number of wedges in a pie make up the pie. See Fig. 8.

Let us do the division for our four typical cases. Case 1—102 cuts in pattern wheel divided by 102 primary pattern width gives a quotient of 1 primary width in the wheel. Since there is no remainder, there is no secondary width. Case 2—96 cuts in pattern wheel divided by 48 primary pattern widths gives a quotient of 2 primary widths in the wheel. Since there is no remainder, there is no secondary width. Case 3—100 cuts in pattern wheel divided by 40 primary pattern width gives a quotient of 2 primary widths of 40 each, and one secondary

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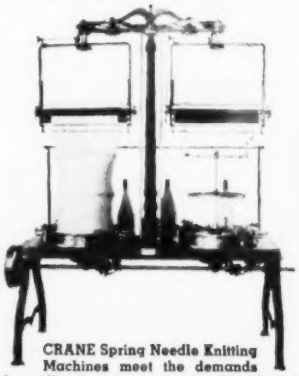

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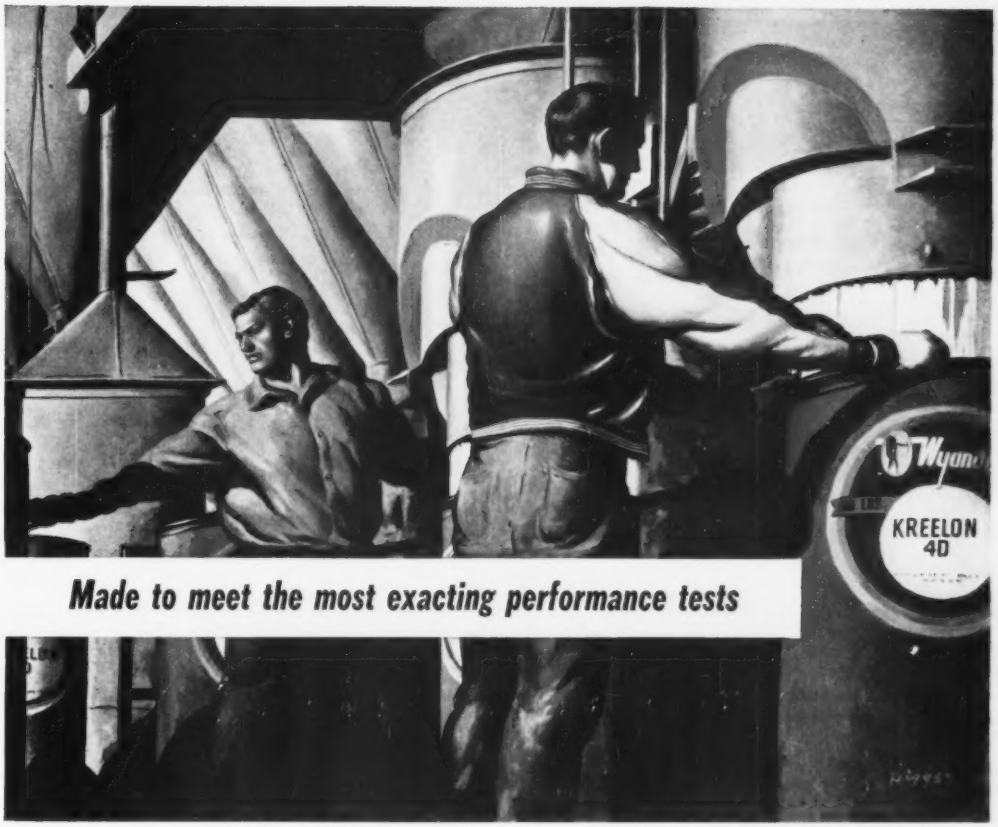

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WYANDOTTE KREELON—*the white, uniform detergent and wetting agent*

If you produce cleaning compounds or other products that call for an effective synthetic organic detergent, you'll find the answer in *Wyandotte Kreelon**. Or if some operation in your plant requires an unusual amount of time and labor in the wetting-out process, chances are that Kreelon can help you do a *better job, faster.*

This versatile chemical, broadly classified as a surface-active agent, is designed to meet rigid performance specifications. Initial production of Kreelon was delayed for months until the product's color, chemical analysis and performance measured up to the highest standards. Controlled production maintains these standards.

The three grades of Kreelon produced range from *white* to *light cream* in color and have only a faint characteristic odor. Equally important is the fact that they retain their wetting, sudsing and cleansing properties in acid, alkaline or neutral solutions — in hard or soft waters.

Wyandotte Kreelon is readily available and economically priced. Complete information on its properties and suggested uses will be furnished at your request. In addition, our experienced technical staff stands ready to assist you in solving many detergency problems.

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Wyandotte Chemicals Corporation
Wyandotte, Mich. • *Offices in Principal Cities*

SODA ASH • CAUSTIC SODA
BICARBONATE OF SODA
CALCIUM CARBONATE • CALCIUM CHLORIDE
CHLORINE • HYDROGEN • DRY ICE
SYNTHETIC DETERGENTS • GLYCOLS
CARBOSE (Sodium CMC) • ETHYLENE DICHLORIDE
PROPYLENE DICHLORIDE • CHLOROETHERS
AROMATIC SULFONIC ACID DERIVATIVES
OTHER ORGANIC AND INORGANIC CHEMICALS

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Silicone News

DC SILICONES

DC 44 Silicone Grease Ends Bearing Failure in Textile Plant

Bearing failure may burn out your motors, stop your entire production line or ruin a mill run. That's why it's front page industrial news when the Plant Manager of a large textile plant reports that he has not had a single bearing failure since he started to use Dow Corning Silicone Oils and Greases over 30 months ago.

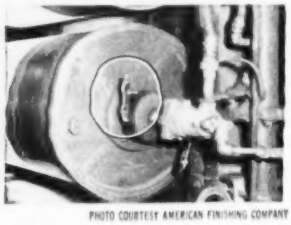

PHOTO COURTESY AMERICAN FINISHING COMPANY

DC 44 Silicone Grease in ball bearings on drying cans, operating at 400 r.p.m. around saturated steam journals, has 45 times the life of the organic grease previously used.

Typical of the lubrication problems that plague plant engineers in textile plants is the maintenance of "steam-heated" bearings. It used to be necessary to lubricate bearings on drying cans and the main cylinder bearings of Sanforizing machines once every 8-hour shift. Since American Finishing started to use DC 44, the re-lubrication schedule has been cut to once every 30 to 45 shifts. The lubrication of Slashers on textile mills presented a similar problem that has been solved by using DC 44.

On tenter frame chains and races that travel through ovens at 400 F., petroleum oils carbonized so rapidly that the chains had to be cleaned periodically. That costly operation and the need for continuous lubrication have been eliminated by a weekly application of DC 710R Silicone Fluid.

American Finishing, like many other skillfully engineered companies, has found that Dow Corning Silicone lubricants more than pay for themselves in reduced maintenance costs. Increased production due to the virtual elimination of bearing failure is another one of the many bonuses Dow Corning Silicones pay to modern industry. For the most recent data on DC Silicone Greases phone our nearest branch office or write for data sheet No. D5CD.

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Dow Corning
FIRST IN SILICONES

width of 20. Case 4—130 cuts in pattern wheel divided by 80 primary pattern width gives a quotient of 1 primary width of 80, and one secondary width of 50.

3. Following the information obtained thus far, the next step is to draw the pattern wheel schematically. Draw a circle to represent the full pattern wheel. Starting from an arrow marked on top of the circle and in a clockwise direction, draw in all the primary and secondary widths, thus dividing the circle into wedges. This is done roughly. Number the widths or wedges 1, 2, 3, 4, 5, etc. in clockwise order, and mark the number of slots contained in each width or wedge.

The foregoing gives the theory of pattern wheel knitting, and how to find pattern widths for any combination of cylinder and wheels on Supreme pattern wheel machines. The next step should be figuring the layout of the pattern area on graph paper. This information will be covered in future issues of TEXTILE WORLD.

Useful Accessories For the Textile Mill

(Continued from page 156)

riveted and copper-fabricated units of the same capacity has been announced by American-LaFrance-Foamite Corp., Elmira, N. Y. Soda-acid, foam, plain water, and anti-freeze water types are available. Lighter in weight by 4½ lb., they are claimed to be stronger than the older types.

Fractional-Horsepower Motor Switches

A line of manual starting switches for use with fractional-horsepower motors has been developed by General Electric Co., Schenectady 5, N. Y. The new switches are furnished in five different types: with general-purpose inclosure; without inclosure; with combination unit and selector switch; with cast-iron inclosure for wet locations; and a similar type for dusty or hazardous locations. An insulating base on all types directs heat concentration to the tripping device, thus assuring quick and positive overload switching to the "off" position.

Twin Pusher Attachment for Lift Trucks

A twin pusher attachment to simplify the handling of metal drums has been designed by Automatic Transportation Co., 149 West 87th St., Chicago, Ill., for use on Skylift electric fork trucks of all capacities. The pushers, used independently or simultaneously, assist the drum off the lifting base into position in a stack or on a shelf. The pusher attachment includes its own motors and pumps for its hydraulic operation, and the unit can be detached for replacement by standard forks.

Cylinder Flow-Control Valve

A compact flow-control valve designed for more accurate, automatic control of the speed of a cylinder-piston stroke without affecting the power of the cylinder has been developed by Airmatic Valve, Inc., 1643 East 40th St., Cleveland, Ohio. This valve is positioned in the line, between the operating valve and the cylinder, to control the speed of air being exhausted from the cylinder. Air, oil, or water pressures from 0 to 1,000 psi. can be handled. The valve is available in six standard sizes—¼, ⅜, ½, ¾, 1, and 1¼ in.

Gas-Flow-Meter Unit

A gas-flow-meter unit which is said to remove the human element from flame balancing has been announced by Metallizing Engineering Co., Inc., 38-14 30th St., Long Island City 1, N. Y. Gas balance can be visually checked so that it is exactly right for each metal. Restriction in flow or change in pressure is indicated immediately. Higher spraying speeds and gas savings are claimed as other advantages.

Roller-Bearing Screw Take-up

A roller-bearing take-up which features positive adjustment by turning screw heads at either end has been announced by Dodge Mfg. Corp., Mishawaka, Ind. The bearing used is the inner unit of the Dodge-Timken Type E roller-bearing pillow block. A welded-steel frame provides strength and rigidity without excess weight.

Motor Reducer

A gear motor which uses an axial air-gap motor has been developed by Fairbanks, Morse & Co., 600 S. Michigan Ave., Chicago 5, Ill. The main features of this type motor are space and weight reduction; the motor is less than half the size of the conventional type and weighs less by one-third. The units are available in ratings from ¾ to 10 hp. The motor may be removed from the gear housing and run separately. Horizontal mounting, preferably on floor level, is most suitable; but provisions for other mountings can be made.

Scoop-Bucket Attachment for Lift Trucks

A dump-bucket scoop for handling loose materials has been announced by Lewis-Shepard Products, Inc., 273 Walnut St., Watertown 72, Mass., for use with their Standrive power fork trucks. The attachment is recommended for materials such as sand, gravel, granular chemicals, coal, and the like. The unit is designed for loading and unloading railroad cars and highway trucks, movement of materials, and for filling bins, stokers, etc. The scoops are available in capacities according to the character of materials handled.

Prefabricated All-Aluminum Conveyor

An aluminum conveyor which is prefabricated in 5-ft. sections has been announced by Mercury Conveyor, Inc., Hillsdale, N. J. Variable speeds up to 100 ft. per min. in either direction are featured. The aluminum surfaces are non-corrosive and non-contaminating. A patented drive-sprocket is claimed to prevent slipping. The conveyor sections are available in widths from 6 to 96 in.

Commode Dispenser and Deodorant

A dispenser for deodorizing toilets to provide maximum sanitary conditions has

For better laundry net, investigate the *Kidde Knitter*

Nylon net produced on the Kidde Knitter offers exceptional durability—plus these other features that laundries want:

1. The net is runproof, because each end is anchored. Even if snagging causes a hole, the hole will not spread.

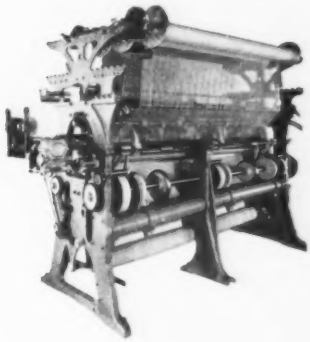
2. The net can be produced with large-size holes—giving better penetration by water and washing solutions than can be obtained with woven nets.

3. The holes will not close up when the net is full and under tension.

Of course, when you knit laundry net—or practically any other net—on the *Kidde* Knitter, you also get the advantage of *high-speed production*, with resulting savings in cost.

Use the Kidde Knitter on these fabrics too

ELASTIC FABRICS for corsets, girdles and brassieres. DRESS FABRICS. NETTINGS and VEILINGS. DISHCLOTH MATERIAL. CURTAIN FABRICS. NARROW FABRICS. SHOE CLOTH. KNITTED OUTERWEAR FABRICS for sweaters and polo shirts.



Free literature is available on the Kidde Knitter. Write for your copy.

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Kidde Knitter

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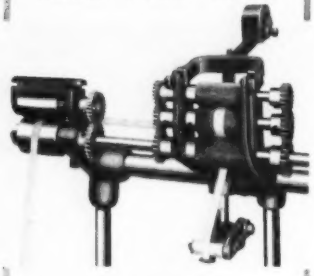

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- Wide spacing between gears reduces tilting of rolls and assures more constant tension.

LET-OFF

- Special gears having *cut* teeth of fine pitch for smooth drive and uniform tension.

This improved Braider Take-Up and Let-Off consistently produces first quality braid of uniform width and can be installed readily on existing braiders.

Ask for further details and prices

NEW ENGLAND BUTT COMPANY

Established 1842

204 Pearl St., Providence 7, R. I.

been announced by General Scientific Equipment Co., 2700 W. Huntingdon St., Philadelphia 32, Pa. The dispenser is concealed in the commode flush tank and has no moving parts. A super-strength deodorizing liquid drips constantly through the overflow pipe into the bowl. The unit is easily refilled and requires service every 25 days.

Portable Elevator

A portable elevator adaptable to tasks where loads up to 500 lb. must be lifted from 1 to 5 ft. has been developed by Barrett-Cravens Co., 4609 S. Western Blvd., Chicago 9, Ill. The elevator is hand operated and can be stopped at any point on the way up or down. Over-all height is 6 ft., and the platform is 24 in. square. The load handled can be up to 30x42 in. in size. The platform when lowered is 5½ in. off the floor.

New Mimeograph and Ink

A new Mimeograph with a built-in motor and a new type of ink have been announced by A. B. Dick Co., 720 W. Jackson Blvd., Chicago 6, Ill. The Mimeograph is attached to a low stand with a foot control for sit-down operation. The new ink dries upon contact with most papers, thus eliminating the necessity for interleaving. Both the products are designed to reduce labor costs by shortening the over-all duplicating cycle.

Disk-Type Duplex Strainer

A duplex strainer designed to permit continuous operation while cleaning has been announced by J. A. Zurn Mfg. Co., Erie, Pa. Flow through the unit is diverted from one straining chamber to another by a handwheel, without possibility of any positive shut-off. While flow passes through one chamber, the other may be cleaned. The units are suitable for intermittent as well as continuous flow, and they are designed to handle fluids with high solid content.

Agitator for Mixing Chemicals

An agitator which is said materially to reduce washing or mixing time has been announced by Koppers Co., Inc., Pittsburgh 19, Pa. The Goldman agitator is so constructed that it propels liquids to the sides of the tank and upward. At the top, the liquid is drawn to the center where it is pulled downward through the hollow axis upon which the agitating blades are fastened. It is expelled from the bottom of this hollow axis to repeat the process.

Steam Generator

A new series of steam generators which save space and are said to give improved efficiency has been announced by C. H. Dutton Co., 638 Gibson St., Kalamazoo, Mich. The boiler-feed pump and condensate-return system are shipped separately and can be installed above or alongside the main unit. Preheated secondary air is introduced directly into the combustion chamber, thus eliminating unnecessary resistance. Cutting down draft loss also reduces fan speed, thus giving quieter and smoother operation.

Beckman Flame Spectrophotometer

A new type of spectrophotometer which is said to give very high resolving power and great accuracy by utilizing a hot flame has been announced by Beckman Instruments, National Technical Laboratories, South Pasadena, Calif. Maximum range and versatility is claimed because the hot flame excites spectral lines of a large number of elements, even where only traces are present. Only small samples are required, and a rate of four samples per minute is said to be possible.

Smoke Density Recorder

An electronically operated smoke-density recorder which measures and records the density of smoke or dust in flues or ducts has been developed by Bailey Meter Co., 1050 Ivanhoe Rd., Cleveland 10, Ohio. A Bolometer-type smoke detector and a sealed-beam light source are used as the primary element. The amount of radiation reaching the detector filament is dependent upon the smoke density. The recorder thus measures density in terms of temperature, with a compensation for high ambient temperatures.

Rotary Union with Monel-Metal Bellows

Development of a new design of rotary union featuring a monel-metal bellows to eliminate need of spring loading has been announced by Perfecting Service Co., 6140 Cottage Grove Ave., Chicago 37, Ill. The unit is used for introducing steam or coolants into rotary drums such as on dry cans and slashers. Ball-bearing construction is said to permit a power saving, and a flexible hose is claimed to eliminate the need for complicated piping and supports. The union is available in plain and siphon types.

High-Speed Synchronous Motors and Generators

A new line of general purpose, high-speed synchronous motors and generators in the 900 series frame sizes has been announced by General Electric Co., Schenectady 5, N. Y. The new motors are available in standard ratings from 20 hp. to 1,000 hp. at 60-cycle speeds of 514 to 1,800 rpm., in either two-phase or three-phase types. Generators are available in kva. ratings from 12.5 to 1,250. Of drip-proof construction, the motors have direct-connected and belt-driven exciters available for all ratings.

Electric Impact Tool

An all-purpose electric impact tool for heavy industrial maintenance has been developed by Ingersoll-Rand Co., 11 Broadway, New York 4, N. Y. The new model is rated to run and remove nuts up to ¾-in. thread size; drive and remove studs and screws; run wire brushes; drill brick, metal, and masonry; tap; and ream. The impact principle is said to eliminate burning-out of the motor under heavy loads. The tool weighs 9 lb. 13 oz. It operates on a.c. or d.c. and is available for 110- or 220-v. current.

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DYES & CHEMICALS

Durable Water Repellent For Woolen Fabrics

A new and improved durable water repellent, Durable Norane W, for use on all-wool and wool-blend fabrics, has been developed by Warwick Chemical Div., Sun Chemical Corp., 10-10 44th Ave., Long Island City, N. Y.

The new agent is said to offer other benefits in addition to durable water-repellency. Durable Norane W can be applied so as to add body to a fabric, to add slickness to a hard fabric, or it can be applied with practically no effect on the 'hand' or the appearance of the fabric.

Durable Norane W, it is claimed, also makes fabrics resistant to non-oily spots and stains, and adds crease and wear resistance.

Ion-Exchange Resins Have Low Cost, High Capacity

A new series of cation ion-exchange resins especially made for the replacement of Greensands and Zeolites has been developed by Penfield Products, Inc., Meriden, Conn. The new resins are tradenamed Penex-E and Penex-T. The former has a normal exchange capacity of 12 kilograins with a salt regeneration dosage of 0.45 lb. per kilograin of hardness removed. The latter has a normal capacity of 25 kilograins with a salt regeneration dosage of 0.30 lb. of salt per kilograin of hardness removed. This compares with 4 and 8 kilograins for Greensands and Zeolites, respectively. The new resins are said to reduce greatly the frequency of regeneration, and to produce water that is softer, easier to work, kinder to fabric.

The Penex resins are said to be competitively priced and are sold with a money-back guarantee.

More Effective Sequestrant For Ca and Fe Solutions

A new sequestering agent called Versene Fe-3 has been developed by Bersworth Chemical Co., Framingham, Mass. The new agent is said to be particularly effective in sequestering trivalent iron that often exists as a chemical contaminant in solutions.

A Versene FE-3 solution containing sequestered (i.e. non-ionic) ferric iron is also said to have considerable sequestering action on calcium and magnesium. As an example of the sequestering action of the new product, 10 cc. of Versene Fe-3 sequesters 167 mg. of ferric iron as well as 158 mg. of calcium at a pH of 7.

The sequestering power of both Versene and Versene Fe-3 varies with the pH of the solution. Versene Fe-3 is rated about twice as effective as regular Versene in sequestering trivalent iron at pH 12 and is about three times as effective at pH 7. Versene Fe-3 is rated only slightly less effective than regular Versene in sequestering calcium, magnesium, and other alkaline earth ions.

Surface-Active Agent Is Highly Concentrated

Nonic 218, a concentrated, liquid, non-ionic, surface-active agent of the alkylene-oxide-adduct type has been developed by Sharples Chemicals, Inc., 23 South Broad St., Philadelphia, Pa. The agent is said to possess an unusual combination of detergent and wetting properties. It is seldom necessary to use more than one part of Nonic 218 in 2,000 parts of solution, it is claimed. This concentration gives a Draves-Clarkson sinking time of less than 25 sec. at 77° F. and excellent detergency. Nonic 218 is effective over wide ranges of temperature and pH.

It is said to be particularly useful:

1. Where cationic or anionic agents are rendered inactive (salted out, neutralized, etc.)
2. In combination with either cationic or anionic agents to improve wetting, penetration, and detergency.
3. Where hard-water conditions exist.
4. Where quick and efficient removal of grease is required.
5. Where cleansing and wetting actions are required simultaneously.
6. Where good emulsifying properties are required.

Physical properties of Nonic 218 are:

Color	Straw
Physical form	Liquid
Odor	Very slightly characteristic
Specific gravity @ 20°/20° C.	1.05
Viscosity, at 77° F.	1.33 poises
Average weight per gallon	8.5 lb.
Concentration for 25-sec. sinking time @ 77° F. by Draves Clarkson	0.04%
Surface tension of 0.05% solution	28 dynes/cm.
Interfacial tension water against mineral oil 0.05% solution	0.0 dynes/cm.

The new agent is soluble in water, ethyl alcohol, acetone acetate, ethyl ether, and amyl acetate.

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CONTROL Reduces Dyeing Costs

HIGHLIGHTS: *Nature of dyeing process makes scientific control difficult to apply—Some progress made through machines and chemicals in recent years—Supervision should be functionally divided.*

By K. E. MARSDEN

Leeds, England

IT HAS LONG BEEN HELD by efficiency experts that in business and manufacturing wherever the old, unsystematic methods still predominate, confusion, low efficiency, high production costs are found, accompanied by a keen struggle for existence. But where scientific control of work is established, and where everything has been reduced to a system, there orderliness, dispatch, neatness, smooth operation, high efficiency, low production costs, and prosperity are likely to be the rule.

These latter ideas have been used with success in many industries during the course of the present century; especially so in those where production has followed a regular routine, and where main concern has rested in the output of standardized goods. The question of the moment is how these principles can be applied to the intricate and highly technical process of dyeing.

Practical dyers will appreciate the many difficulties likely to be faced that are absent in those industries where mass production of a standardized article is the main concern. One of these—the time factor—is not easily overcome in the process of dyeing. Time taken in attaining the boil and between saltings cannot be cut down unduly without risk of unsatisfactory results.

NEW CHEMICALS. On the other hand, it can be said that definite progress has been made during recent years: (a) with the gradual replacement of the true Alizarine-type dye, involving an initial bottom-chroming process, by the afterchrome type, thereby saving time; (b) with more and more use of the one-bath method, Metachrome, Chromosol, Eriochromal, etc.; (c) with the increased use of the chrome-salt type of dye.

Acid colors, especially those of the fast-acid, or semi-neutral types involving use of acetic acid followed by additions of formic or sulphuric acids, are now applicable to textiles using additions of phosphoric acid alone, without need for additional acid, thereby saving time in dyeing.

Another point in connection with the time factor is the fact that the old-fashioned burl-dyeing process, using myrabs and nitrate of iron, has not been replaced. Always a lengthy process, especially where a double burl-dye is required, a really satisfactory substitute remains to be found. Cold cotton staining does not always answer the same purpose; nor has it the same "fastening" effect of burl-dye upon some of the more fugitive violets, etc., such as are used during the acid wool dyeing of lower-class piece goods.

On the other hand, the two-bath process, involving acid wool dyeing first followed by cold cotton staining on the washer, is replaced in many instances these days by the one-bath union method. Opinions differ as to the fastness results obtained. With modern dyes, it is, however, possible to obtain extremely good and fast-to-light results from use of this method. Where extra fastness to water is required, it is sometimes necessary to follow with a "fixing" process; but where this takes place the time-saving factor is defeated.

PERSONNEL. The skill of the dyer must also be taken into consideration. His ability to "get on shade" with a minimum of dye "saltings" means less cost in steam and labor; both of which count in estimating the final cost.

With regard to labor, there comes the question of the number of dyeing machines per operative, and the number of pieces per machine. Bulk loads per shade obviously mean less cost than "odd pieces" per shade.

The question of labor costs also brings to mind a further feature of scientific control; that of functionalized responsibility. Applied to dyeing, this indicates the need for functional key men; the technical key man being the head dyer, responsibility for full control, but with special reference to shade-production. His assistant, the routine keyman, should undertake general routine work, making out dye states, etc.; the second hand, controlling and organizing dyehouse labor.

ODD LOTS. More than ever before, the importance of reducing "odd-

A Tip to Progressive Mill Operators

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ROLLER BEARINGS

As contrasted with constant plain bearing loom oilings, records show that with Hyatt Roller Bearing equipped looms, lubricating time is cut down to a few times a year. When ordering looms specify Hyatts. Let us tell you more.

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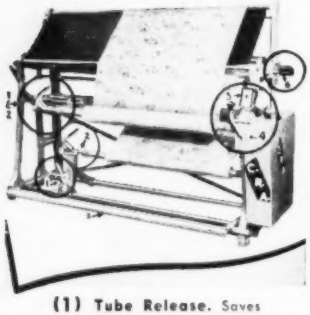
With All the Most Wanted Features



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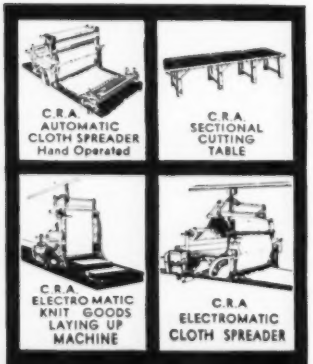
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pieces" is apparent. One operative can supervise a machine-load of four pieces with little more effort, if any, than would be required for the supervision of a single piece in the same machine. An odd piece dyed in a four-piece machine necessitates an equal volume of steam to that required for four pieces. Therefore, in labor and steam costs, there is much saving to be made through elimination of small lots per shade.

To sum up, the principles involved are those which were applied by Ford and others years ago—that the wage is not so important a factor in the cost of production as the rate of production. Given a good market, it is possible to produce articles at a cheap selling price, at the same time giving the productive workers high rates of pay.

Can these principles be applied by the dyers of textile fabrics? Scientific control implies getting the most from money, materials, methods, and men. How to do this with regard to the dyeing of textiles is the problem to be faced. What is more—it must be solved.

Mill Maintenance

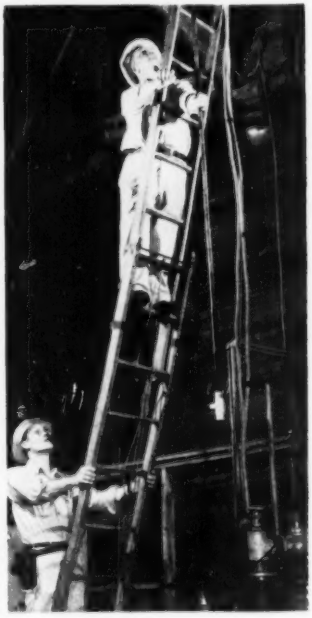
Temporary Wiring Systems Should Be Corrected

Many wiring jobs were done during the war with temporary BX and Romex wire. This type of wiring, while approved by the Electrical Code for temporary installations, is not adapted to the severe wear and tear received in most mills.

Adequate wiring requires that each installation offer the best possible protection to the user. The purpose is the practical safeguarding of persons and buildings from electrical hazards. The code covers the installation of wiring according to a minimum standard.

Compliance with the code and proper maintenance will result in an installation reasonably free from hazard but not necessarily efficient or convenient. Good service and satisfactory results will often require larger sizes of wire, more branch circuits, and better types of equipment than the minimum written into the code.

In addition to the use of rigid conduit and properly mounted disconnecting devices, an important requirement of a wiring system is protective grounding. The rigid conduit provides two return paths to the earth: one through the grounded neutral conductor and the other through the metal conduit itself. If the insulation breaks down, the effect is the same as that of a short conduit: the fuse is blown. This precaution permits the fault to be corrected before service is resumed.



***RIGID ELECTRICAL CONDUIT** should be used to replace temporary BX or Romex wiring installed during the war. Safety, efficiency, and convenience should be considered in planning the system.*

The purpose of grounding an interior system, of course, is to limit the voltage in the system if for any reason the voltage is considerably increased. Such an increase may be caused by several things, such as:

1. Exposure to lightning.
2. Breakdown of the insulation between the primary and secondary windings of a step-down transformer.
3. A cross between the primary and secondary windings.
4. A cross between the supply mains.

While it was necessary to install temporary systems during the war, the

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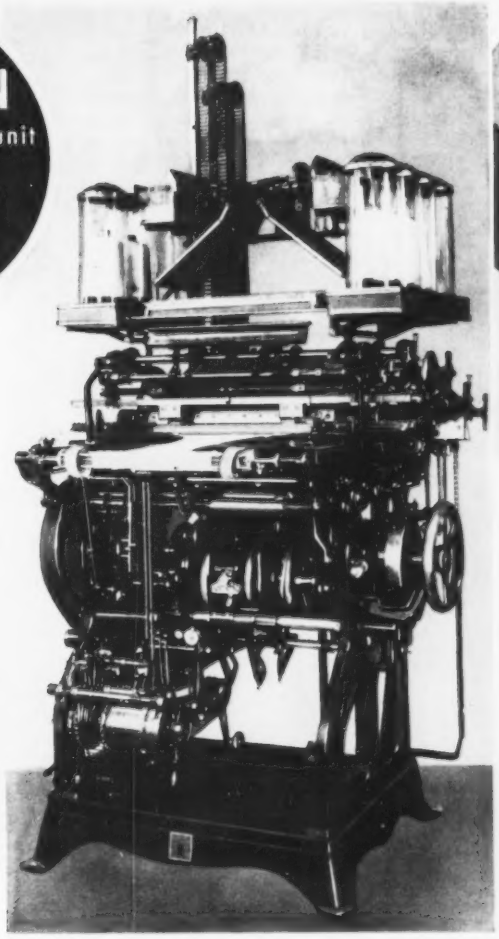

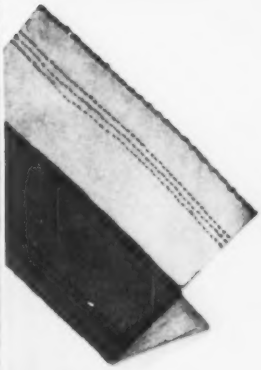

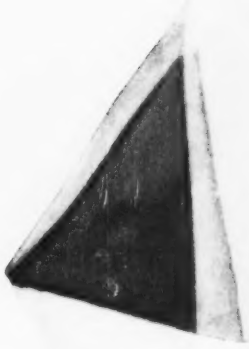

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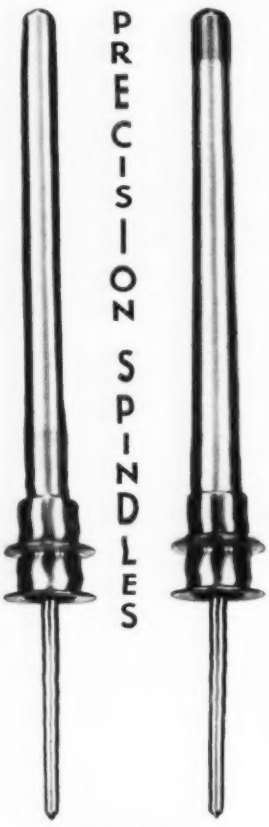

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necessity no longer exists; and it is no longer necessary to keep using systems installed at that time. Now that material is available, such installations should be replaced with rigid conduits and adequate disconnecting devices and grounds. When the replacement is made, it would be well to plan the system for supplying the load in an efficient, convenient, safe manner.

MORE PRODUCTION

Of Japanese Textiles

HIGHLIGHTS: *Domestic consumption cut drastically in export drive—Cotton still king but rayon has bright future—5,000,000 cotton spindles seen operating by 1953—Wool-yarn production and raw-silk exports take big cuts.*

By A. W. JESSUP
McGraw-Hill World News, Tokyo, Japan

IN 1953, JAPAN must get by with less than 3 lb. per capita of cotton goods and 0.3 lb. per capita of wool. In 1930 to 1934, per capita home consumption (including industrial uses) ran about 6.9 lb. of cotton yarn and 1.35 lb. of wool yarn.

These figures mean the average Japanese will get 56% less cotton material and 78% less wool material in 1953 than he did in 1930 to 1934. *Raw cotton and raw wool for this* reduced level will cost the country, respectively, $95,000,000 and $30,000,000. Hard and bast fibers necessary for home consumption (2½ lb. per capita in 1953 as against 5 lb. in 1930 to 1934) will add another $30,000,000 to the textile bill. These figures, added to the estimated cost of wood pulp for rayon yarn manufacture, add up to $175,000,000.

Although cotton is king in Japan's textile industry, rayon and synthetics have the brightest future in the country. By 1953, important changes will have been made in the industry, slanting it toward exports, and including increases in cotton-yarn, rayon, and other synthetic production. In wool and silk, compared to 1930 to 1934, there will be a sharp cut-back. In addition, the following three changes will take place, along with an expected 31% increase in Japan's population from 66,300,000 inhabitants in 1930 to 1934 to 86,700,000 in 1953.

1. Cotton yarn production, to meet domestic requirement and essential exports, must increase from 275,000,000 lb. in 1948 to 775,000,000 lb. in 1953. This increase will require 5,000,000 operating spindles, compared with present spindleage of 3,250,000. Raw-cotton imports will have to run about 1,900,000 bales.

2. Production of man-made fibers will increase. For rayon and synthetics, one ton of rayon pulp costs no more than one bale of raw cotton, but it is the base for a much greater volume of finished product. Japan, whose interest must be in high foreign-exchange profit with a view to paying for its basic imports, must put greater emphasis on synthetics. Goals for 1953 run roughly triple the 1948 output of 75,000,000 lb. Exports must eat up one-third of the output. Raw-material imports, including 60,000 tons of high-grade wood pulp, will run $20,000,000.

3. Wool will take a big cut from the past in plans for 1953. Yarn production hit 1,160,000,000 lb. in the base years of 1930 to 1934 but will be less than 800,000,000 lb. in 1953. At least 550,000,000 lb. must be exported. Even these goals require a tripling of 1948 production and a five-fold increase in exports.

EXPORTS. Significant changes are in prospect for the export pattern. In 1953, textile exports will account for nearly $700,000,000. Cotton yarn and cloth will lead the parade with $425,000,000. Rayon shipments will total $95,000,000, silk (raw and fabric) $90,000,000, and wool $70,000,000. The biggest slash, of course, will come in raw silk. During the base 1930 to 1934 period, Japan averaged exports of 520,000 bales of raw silk and nearly 7,000,000 lb. of silk fabrics, worth $275,000,000 at 1948 prices. Raw-silk exports will be about 125,000 bales in 1953, while fabrics will reach 8,000,000 lb.

The Japanese textile problem resolves itself into the desire to provide for basic home-consumption needs as well as to provide an export margin that will help put the country on a self-sufficiency basis. The planning is not aided by the fact that indigenous fibers (except for silk) are negligible in the country, and have to be imported from overseas.

Japanese leaders must let their people know the facts of the austerity program, roll up their sleeves, and really go to work if they expect to meet these goals in less than 4 years.

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Books of Interest

A Comprehensive Work on Cottonseed and Its Products

COTTONSEED, AND COTTONSEED PRODUCTS, edited by Alton E. Bailey; Interscience Publishers, 215 4th Ave., New York 3, N. Y.; 936 pages.

Cottonseed is a rather useless by-product of cotton ginning so far as the textile manufacturer is concerned, but perusal of this volume will impress him with the remarkable versatility of that byproduct. Oil, cake, and meal seem to be the most important products of the seed; but the authors devote a substantial number of pages to cotton linters, touching on grading and uses. On grading, Guy S. Meloy, of Lanham, Md., is the author; and on uses, Peter Van Wyck, of Hercules Powder Co., Wilmington, Del. The fiber use of linters and their chemical use are analyzed. Felt, batting, flock, plastics filler, and surgical cotton comprise the fiber group; and explosives, lacquers, and rayon are important in the chemical use.

The volume is presented as a text and reference book for students, for workers in the field of cottonseed utilization, for merchandisers of derived products, and for scientists and technologists in related fields. It concludes with a complete author index separate from the subject index.

Handling of Individual And Group Relationships

FOUNDATIONS FOR CONSTRUCTIVE INDUSTRIAL RELATIONS, by R. Carter Nyman; Funk & Wagnalls Co., 153 E. 24th St., New York 10, N. Y., 209 pages, $2.85.

Formulators and administrators of company policy in any field, including textiles, will be interested in reading this book. Employees in any enterprise, large or small, are interdependent, the author says; and he advocates the objective application of nature's own principles to the field of human relations, in recognition of this human interdependence.

The human race has gone a long way in dominating nature and making itself physically comfortable through analyzing and working in accordance with nature's laws, rather than fighting them. The same dispassionate application of these laws can aid in relations with groups of people. Examples are given of good and bad handling of labor relations in manufacturing plants.

The integrated, adequately planned policy is shown as more successful than the hastily-devised "practical" one. General social developments inherent in the passing of the years in a democracy are stressed as being part of management's problems. Management, advantageously located in its focal position between the promulgation of ideas and the application of them, should recognize this fact and plan its course far enough ahead to lessen the impact of these inevitable changes upon the running of business.

Science and Practice of Ventilation

DESIGN OF INDUSTRIAL EXHAUST SYSTEMS, by John L. Alden; The Industrial Press, 148 Lafayette St., New York 13, N. Y.; 252 pages, $3.50.

Ventilation is an art which has grown sharply in recent years. This second edition of John Alden's book, therefore, has been completely revised and new chapters added as compared with the first edition published in 1939. Mr. Alden, who is assistant works manager of the Western Electric Co.'s Kearny, N. J., plant, tells the reader how to design, build, or buy an exhaust system that will adequately and economically perform the functions required by law or prescribed by engineers or industrial hygiene specialists. The scope of the book includes exhaust ventilation, low-pressure pneumatic conveying, design of hoods, piping and structural details, and the selection of dust separators and of centrifugal and axial-flow fans.

Another Book of Interest

FUNDAMENTAL PROCESSES OF DYE CHEMISTRY, by H. E. Fierz-David and Louis Blangey; Interscience Publishers, Inc., 215 Fourth Ave., New York 3, N. Y., and Interscience Publishers, Inc., London; 479 pages, $9.50. A translation of the fifth edition of "Grundlegende Operationen der Farbenchemie," with revised chapters on the practical work in the organic industrial laboratory, the analysis of dyestuffs, and determination of lightfastness. Written as a laboratory manual and recommended to chemists employed in organic synthetic work.

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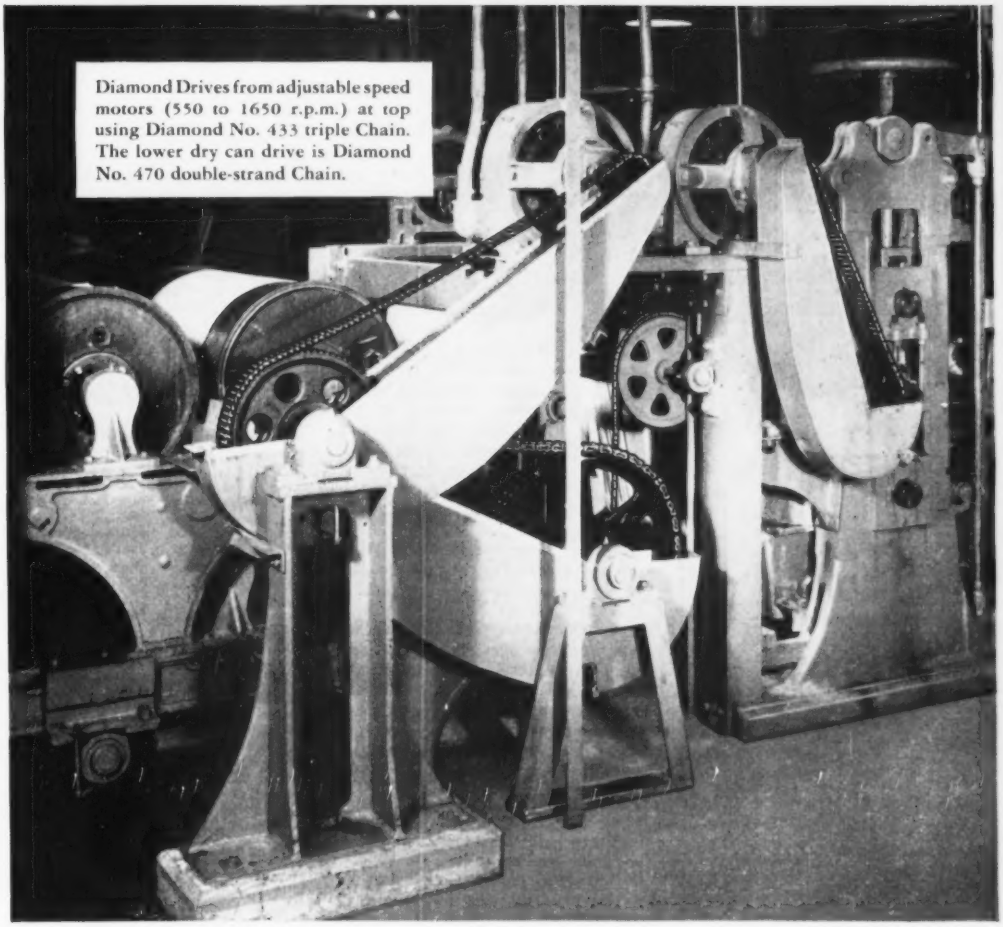

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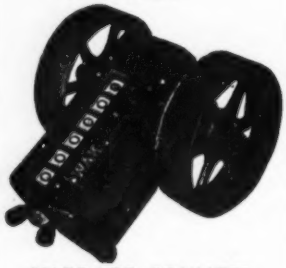

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News of the month

Closed-Jig Advantages. Closed dye jigs are preferable to the open type for several reasons, according to an anonymous paper delivered at the meeting of the New York section of the AATCC at Rochelle Park, N. J., Apr. 1. Closed jigs are desirable for the following reasons, the unknown expert stated: (1) they minimize selvage-to-center shading; (2) they eliminate pre-dyeing operations; (3) they conserve steam; (4) they can get the higher temperatures necessary on acetate azo blues; (5) they improve levelness, penetration, and crocking-fastness; (6) they allow the use of acid and chrome dyes for superior wet fastness on nylon fabrics such as upholstery, because of the attainable near-boil temperature level; (7) they are advantageous in stripping, especially when it is necessary to use the sulphoxylates.

Time Study Problems. Two problems that keep industrial time studies from becoming an exact science are: (1) the inability to engineer a method with a true knowledge of the perfect end result; and (2) the subjectivity of existing time and rate-setting procedures. Until universally accepted work measurements for all types of human endeavor can be developed, management technique along this line cannot become a true science. This was the conclusion of John L. Schwab, manager, New England Div., Methods Engineering Council, as expressed in a conference of the Society for the Advancement of Management recently at Georgia Tech, Atlanta, Ga.

Use of Heavier Nylon Reinforcement in F. F. Hose. The Independent Association of Stocking Manufacturers has issued specifications for the use of 50-den. yarn in welts, after-welts, and reinforcements. The instructions, which relate to the use of the 50-den. yarn in substitution for the standard 40 den., follow: (1) remove 10 courses before the picot; (2) remove 10 courses after the picot; (3) remove 4 courses in the shadow welt; (4) regulate knitting to obtain same length on 50-den. fabric as on the 40 den.; (5) start high splicing 24 courses earlier than with 40-den. yarn; (6) adjust rocker and slacker so length of heel, sole, and toe will be the same as when 40-den. yarn is used. Stockings sub-

Textile Calendar

Third Annual International Textile Industries' Exposition, Grand Central Palace, New York, N. Y., May 2 to 7, 1949.

AIEE conference on textile industry, MIT, Cambridge, Mass., May 3, 1949.

British Industries Fair, Birmingham, England, May 2 to 13, 1949.

Cotton Manufacturers Association of Georgia, 49th annual meeting, Sheraton Plaza and Princess Issena Hotels, Daytona Beach, Fla., May 4 to 6, 1949.

American Society for Quality Control, annual convention, Copley Plaza Hotel, Boston, Mass., May 5 and 6, 1949.

Phi Psi Textile Fraternity, annual convention, Biltmore Hotel, Atlanta, Ga., May 6 and 7, 1949.

Swiss Industries Fair, Basle, Switzerland, May 7 to 17, 1949.

National Cotton Week, May 9 to 14, 1949.

National Packaging Exposition, 18th Annual Show Auditorium, Atlantic City, N. J., May 10 to 13, 1949.

Carolina Yarn Association, annual outing, Carolina Hotel, Pinehurst, N. C., May 12 to 14, 1949.

Lowell Textile Alumni Association, 50th anniversary meeting, Boston and Lowell, Mass., May 13 and 14, 1949.

Paris Fair, annual industrial exposition, Paris, France, May 21 to June 6, 1949.

Textile Institute (of Manchester, Eng.), annual conference, Dublin, Eire, May 24 to 27, 1949.

American Institute of Electrical Engineers, textile subcommittee conference, Georgia Tech, Atlanta, Ga., May 26 and 27, 1949.

Tufted Textile Manufacturers Association, annual meeting, Atlanta Biltmore Hotel, Atlanta, Ga., May 26 to 28, 1949.

Canadian International Trade Fair, Exhibition Grounds, Toronto, Canada, May 30 to June 10, 1949.

Philadelphia Textile Institute Alumni Association, 48th annual outing, Oreland, Pa., June 3, 1949.

Textile Wet Processing Equipment & Supplies Exposition, 71st Regiment Armory, New York, N. Y., June 6 to 10, 1949.

STA, annual meeting, Mayview Manor, Blowing Rock, N. C., June 16 to 18, 1949.

AATCC, Piedmont Sect., Ocean Forest Hotel, Myrtle Beach, S. C., June 24 to 26, 1949.

American Society for Testing Materials, annual meeting, Atlantic City, N. J., June 27 to July 1, 1949.

American Society for Testing Materials, first West Coast meeting, Fairmont Hotel, San Francisco, Calif., Oct. 10 to 14, 1949.

Textile Machinery Exhibition, Manchester, England, Oct. 12 to 22, 1949.

American Association of Textile Chemists & Colorists, annual meeting, Chalfonte-Haddon Hall, Atlantic City, N. J., Oct. 13 to 15, 1949.

Cotton-Textile Institute, annual meeting, New York, Nov. 3, 1949.

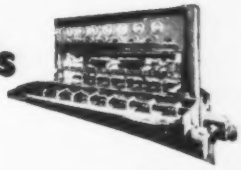
AATCC, Piedmont Sect., Charlotte Hotel, Charlotte, N. C., Nov. 5, 1949.

American Textile Machinery Exhibition (and Allied Industries) sponsored by National Association of Textile Machinery Manufacturers, Atlantic City Auditorium, Atlantic City, N. J., May 8 to 12, 1950.

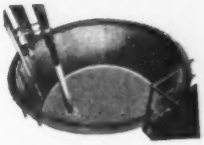
Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 2 to 7, 1950.

LEAD LININGS

...blunt the teeth of Hungry Acids

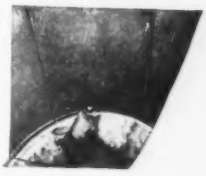


In unnumbered processing plants across the country, sheet lead plays a vital role in keeping acids under control. Because, among other unique properties given lead by nature, is *stern resistance to corrosion.*

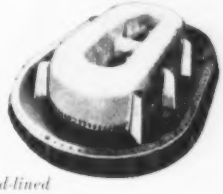


It is this innate ability to blunt the teeth of hungry acids, coupled with several of lead's other "abilities"—adaptability, workability, durability and availability—that makes the use of lead a virtual "must" as a lining for tanks, tubs and vats in which corrosive liquids are handled, moved or stored.

National Lead markets sheet lead of several types—chemical, antimonial, tellurium and antimonial-tellurium. Each has its functional place in the processing field. All are produced with a know-how that makes the most of the metal's inherent qualities. From starting slab to sturdy sheet, the rolling is done under the watchful eyes of experienced operators. The sheet comes off the cutting table smooth, uniform, and true to weight and dimensional specifications.



If your acid-handling activities demand lead's unusual combination of properties, use National Lead sheet. And if you would like our views on ways and means of getting optimum results from sheet lead installations, consider us at your service.



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mitted to United States Testing Co., Inc., to determine conformity to construction standards, will not be rejected when heavier denier yarn is used in the welt, after welt, and reinforcements; but only when a finer denier yarn than specified is used in these areas.

ACMA Considers Merger. At the 53rd annual meeting of the American Cotton Manufacturers Association, held March 31 through April 2 at Palm Beach, Fla., a merger of the ACMA with the Cotton-Textile Institute, Inc., was recommended by a joint committee of the two associations. This merger would be in the interests of economy and efficiency and would eliminate a certain duplication of services now offered by both organizations. Col. W. D. Anderson of Macon, Ga., and George Harris of Danville, Va. made the joint report, action on which will be delayed until certain details are determined and the matter submitted to the membership for final approval.

Ellison S. McKissick of Easley, S.C., was elected chairman of the ACMA board to succeed Harvey W. Moore of Charlotte, N.C. Illness prevented Mr. Moore's attending. George P. Swift, of Columbus, Ga., was made 1st vice-president; and William H. Ruffin, of Durham, N.C., 2nd vice-president. F. Sadler Love was elected secretary and treasurer. R. Dave Hall was designated to succeed Mr. Ruffin on the board, and other members of the board elected to serve three years were W. H. Taylor, Earle R. Stall, J. Craig Smith, Wm. A. L. Sibley, and A. K. Wingate. Executive committeemen elected for the coming year were C. C. Hertwig, Harvey W. Moore, W. A. L. Sibley, and J. Craig Smith; and alternates chosen for this committee were Ernest Rees, R. E. Henry, and Joe L. Lanier.

The Association protested the allocation of large sums of money for supplying new and modern machinery to the countries of Europe. In his annual report chairman Moore urged textile manufacturers to watch closely the trend toward socialism. Earl Heard, vice-president in charge of research, West Point Mfg. Co., and chairman of ACMA committee on research, said a good balance of scientific research, applied research, and invention working together is necessary to produce technical progress. H. L. Wingate stressed the necessity of keeping up farm prices on a reasonable level to insure fair returns to industry and business. G. Ellsworth Huggins reviewed the work of the Association's committee on public relations, stating that it was neither a frill nor a luxury but a matter of particular importance in these times. On the final program of the three-day session Dr. Claudius T. Murchison, of New York, president of the Cotton-Textile Institute, said that the falling off of exports is a matter of much concern and that imports, carefully selected "with due respect for the industries . . . necessary to our economic system," must be fostered as one of several means for distributing American dollars abroad.

GEORGE P. SWIFT was elected 1st vice president of the ACMA and presided at the April 1 session of the organization's 53rd annual meeting at Palm Beach.

Brings Out New Fiber. A new chemical staple fiber in the rayon group, called Celcos, has been brought out commercially by Celanese Corporation of America. The new fiber combines the best features of both acetate and viscose staple fibers, with an ability to cross-dye, an ease of processing, and an absorptiveness for resin and other finishes, according to the company. Sample fabrics containing various percentages of Celcos staple and Celanese staple have been made up as samples for summer suitings and dress goods trade. Further development work on cotton and wool blends with Celcos is planned for outside textile mills. The new staple is priced at 42¢.

Federation Holds Annual. New directors elected for three years at the 77th annual meeting of the National Federation of Textiles, Inc. recently include Marvin R. Cross, president of Greenwood Mills, Inc.; R. Stewart Kilborne, Jr., president of William Skinner & Sons; Donald B. Tansill, vice-president of Pepperell Mfg. Co., Inc.; and Walter L. Weil, vice-president of Commercial Factors Corp. Re-elected were Alexander F. Ix, president of Frank Ix & Sons, Inc., and William G. Lord, president of Galey & Lord, Inc. Henry Neubert, vice president of Deering, Milliken & Co. was re-elected president of the federation by the board of directors. To serve as

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DO YOU KNOW that these glass blocks help control temperature and humidity: reduce condensation: that they help to keep delicate machinery in better adjustment? Do you know that they stop infiltration of dust and grit: that they cut noise: give greater privacy: reduce cleaning costs?

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. . . AND do you know that they admit plenty of diffused, natural daylight over wide working areas, thus increasing your usable floor space?

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No stretch
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Endless or prepared to make endless on the machine
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vice presidents, the board elected three of its number: Mr. Ix; John Fox, president of Fox-Wells Co., Inc.; and Jacques Weber, president of Bloomsburg Mills, Inc. Miss Irene Blunt was reelected secretary and treasurer.

Army Broadens Wool Top Standard. In recognition of basic trends in the world wool situation, the Quartermaster Corps, Department of the Army, has selected a new standard of wool top to be used for Army serge. A previous survey was made of the possibilities of replacing the present standard 60s grade of wool, based upon U. S. Department of Agriculture standards, with a wool top made from graded commercial half-blood wools. While this move involved no basic change in wool grade nomenclature, it had the advantage of using an accepted commercial grade which will allow the use of a broader base of fibers than is included in the U. S. Department of Agriculture standard for 60s.

New Bedford grants a B.S. The New Bedford Textile Institute has been elevated to four-year college level. At a recent dinner in New Bedford honoring the event, Thomas H. Buckley, chairman of the State Commission on Administration & Finance, pictured a possible extension of the institute's activities into the general educational fields by the addition at some future time of a general junior college division. The expanded courses permit the institute to offer to September, 1949, freshman curricula leading to degrees of Bachelor of Science in Textile Engineering, Textile Chemistry, or Machine Design.

PTI Cornerstone Laid. The cornerstone for the new home of the Philadelphia Textile Institute, Germantown, Pa. was laid Apr. 21. Dr. James Creese, president of Drexel Institute, was the speaker. A dinner honoring *Dean Richard S. Cox of the Institute* followed, marking the fiftieth year of association of Dean Cox with the school. Principal speaker at the dinner was Alfred H. Williams, president, Federal Reserve Bank of Philadelphia and former dean of Wharton School, University of Pennsylvania.

Color Card's Annual. A total membership of 2,269, the largest in the organization's 34-year history, was reported by Margaret Hayden Rorke, managing director, in her address at the annual business meeting of The Textile Color Card Association in New York. During 1948, the association gained 315 new members.

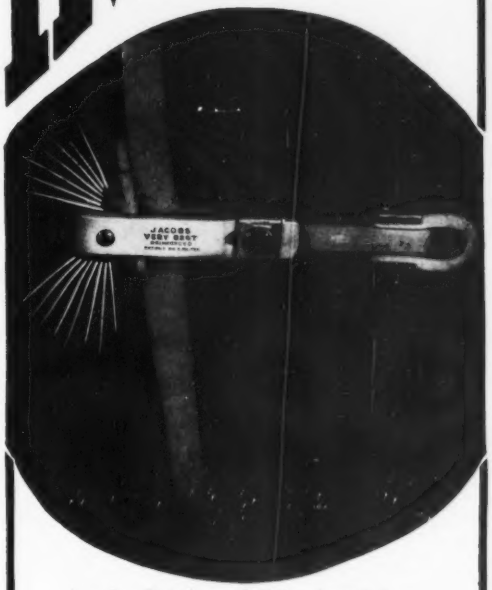
Textile Institute Sets Up Panel. A liaison committee has been formed to maintain closer collaboration between the Textile Institute (whose headquarters are in Great Britain) and members and other textile technologists in the United States. R. J. Kerr-Muir, president of Lustre Fibers, Inc., is chairman of this panel. Beside Mr. Kerr-Muir, the panel includes: Dr. John H. Dillon, director of research, Textile Research Institute and Textile Foundation; Kenneth R. Fox, president, Lowell Textile Institute; Dr. Walter J. Hamburger, director, Fabric Research Laboratories, Inc.; George H. Hotte, technical director, A. M. Tenney Associates, Inc.; Prof. E. R. Schwarz, professor in charge of the textile division, Massachusetts Institute of Technology; Dr. Milton Harris, president, Harris Research Laboratories; and Dr. E. I. Valko, director of research, E. F. Drew & Co., Inc.

India Short of Cotton. Short of both cotton and dollars, India has prohibited the export of cotton to all but hard-currency areas, but will allow the fulfillment of existing firm contracts to supply soft-currency areas. With the establishment of Pakistan, virtually all of the long-staple cotton crop area fell to that new dominion, and the supply situation has been deteriorating steadily. Total Indian crop estimated at 2,600,000 bales this season, will be 2,000,000 short of expected needs.

Austrian Textile Output. Austria's textile production has reached about 75% of the 1937 level. At the beginning of 1948, output was only 47% of prewar; and a year earlier, it was not much over 25%. The rapid increase during 1948 may be credited to the Marshall Plan, which offered greater supplies of raw materials and made possible fuller use of the country's total textile capacity.

Europe's Cotton Needs. Most Western European countries need more raw cotton to meet their consumption requirements, according to a report by Francis H. Whitaker of the Office of Foreign Agricultural Relations in the Dept. of Agriculture. Raw cotton supplies are inadequate in all the countries surveyed except Belgium and Switzerland, and are particularly short in Spain; also mentioned were United Kingdom, Netherlands, France, Italy, and Portugal. European Recovery Program countries are expected to use about 6,600,000 bales of cotton in 1948-49, compared with 6,200,000 in 1947-48 and 7,200,000 in 1938-39.

IMPACT



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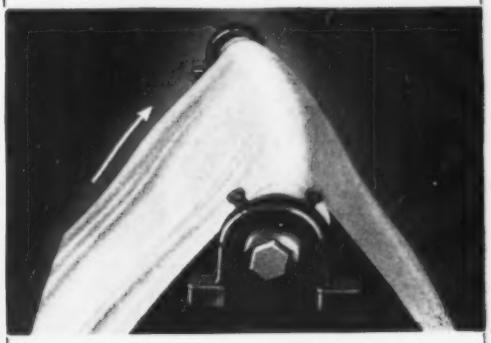

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The Mount Hope Free-Wheeling Expander is regularly used to expand widthwise all types of fabrics, including rayon marquisette, and rayon and cotton tire cord, in conjunction with —

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4. Sealed ends are furnished for wet service to protect bearings.

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NEWS ABOUT Suppliers

Draper Corp., Hopedale, Mass., in its annual report to stockholders covering 1948, notes that it built and shipped 32% more looms in that year than in 1947. The quantity of bobbins and shuttles shipped increased 10%. Export sales for 1948 were about 15% of the total. During 1948, over $500,000 was devoted to research and development in fields other than perfection and improvement of the firm's regular products. Profits for 1948 were reported at $4,600,792, or $11.72 per share of capital stock as compared with $5.88 per share in 1947. After dividends, $2,241,860 was added to surplus.

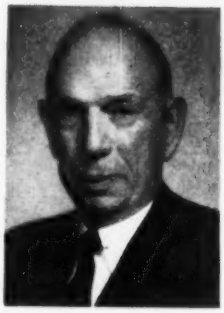
Dary Ring Traveler Co., Taunton, Mass., has added Crawford Rylmer to its sales staff. He was formerly superintendent of carding and spinning of Laurens Mills, Laurens, S. C. He will be Dary's sales engineer and representative in the South Carolina territory, with headquarters at Greenville, S. C.

Foster Machine Co., Westfield, Mass., has begun an addition to its plant which will give 15,600 sq. ft. additional floor space to production area.

Steel Heddle Mfg. Co., Philadelphia, Pa., has completed new plant for its Southern Shuttles Div. at a cost of over $500,000. The new building is at Paris, S. C., near Greenville, and has 60,000 sq. ft. of floor space which will allow for expanded production.

Cameron Machine Co., Brooklyn, N. Y., has elected Palmer Jadwith Lathrop as executive vice president. Mr. Lathrop has been associated with the slitting and roll-winding machine company since September, 1948. He was formerly vice president in charge of production for Bristol-Myers Co.

Textile Shops, Spartanburg, S. C., has added Karl Selden, Jr., to its staff as assistant manager and chief engineer. Mr. Selden was with Minneapolis-Honeywell Regulator Co., Brown Instrument Div., for 14 years.



SAMUEL B. LINCOLN has been elected president of Lockwood Greene Engineers, Inc., New York, N. Y. Mr. Lincoln, who has had broad engineering experience, joined the company in 1908. He succeeds Chester S. Allen, new chairman of the board. Mr. Allen, president since 1946, joined the company in 1910.

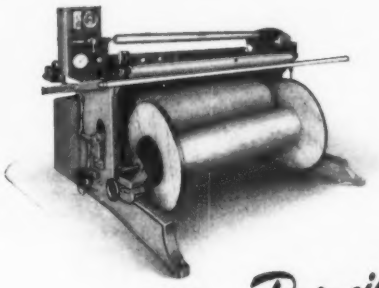
McPherson Co., Greenville, S. C., has opened offices in Washington, D. C., with G. Webber Knight in charge. Mr. Knight has had 25 years engineering experience, and has maintained offices in Washington for some time. His location is Suite 710, Carry Bldg., 927 15th St., N.W.

Bullard Clark Co., Danielson, Conn., has appointed William R. Muller as assistant to Edward Jacobs Bullard, company president. This company is the connecting link between its four operating divisions: E. H. Jacobs Northern Div., Jacobs Rubber Div., and Williamsville Buff Div., all of Danielson; and E. H. Jacobs Southern Div., Charlotte, N. C.

Cloverleaf-Freeland Corp., Hazelton and Honesdale, Pa., has moved sales and purchasing offices to Hazelton, Pa., where executive and production offices were already located.

Union Special Machine Co., Chicago, has appointed Clarence L. Rosenquist to succeed William Bleicher as manager of the New York office. Mr.

New Design



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- New winding method eliminates crossed ends.
- Front positive expansion comb.
- Rear spring expansion comb.
- Excellent for warping dye beams.
- A number of other features contributing to a new standard of warper operation.

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CHICAGO 222 West Adams Street

NEWS ABOUT *Suppliers* (Continued)

Bleicher has resigned after 37 years service devoted exclusively to the New York territory.

Sjostrom Machine Co., Lawrence, Mass. has purchased the plant, machinery, and equipment of Lloyd Churbuck Machine Co. located in the Everett Mill Properties in Lawrence. This is a step in an expansion program which involves the acquisition of still more additional manufacturing space.

Philadelphia Quartz Co., Philadelphia, Pa., has appointed Richard D. Greenway to its sales staff. He will assume duties in Maryland, Virginia, and North Carolina.

Mathieson Chemical Corp., New York, has appointed Dr. Carl F. Prutton as vice president and director of operations of all the company's plants as well as director of research. Arthur T. Bennett, vice president, has been placed in charge of the eight plants acquired from Southern Acid & Sulphur Co. R. B. Worthy and J. F. Newell were named vice presidents.

A. E. Staley Mfg. Co., Decatur, Ill., will replace its pioneer soybean-oil-expeller plant with a new and modern solvent-extraction plant at a cost of several million dollars. The new extraction plant will not increase the total soybean-processing capacity, but merely substitutes a newer and more efficient process.

E. F. Houghton & Co., Philadelphia, Pa., has added Paul J. Welsh to its research staff. He will specialize in research on resins for textile applications.

Calco Chemical Div., American Cyanamid Co., Bound Brook, N. J., has named Dr. H. Z. Lecher as director of research. He has been associate director of research since 1938. Dr. Mario Scalera has been appointed assistant director of research in charge of the Organic Research Section, and Dr. R. P. Parker, assistant director of research in charge of the Pharmaceutical Research Section. Dr. A. L. Peiker, formerly manager of the dyes technical service, has been appointed associate director of application research. Research, process development-extraction plant at a cost

W. CHESTER COBB (above) has been elected vice president in charge of sales of manufactured products of Arnold, Hoffman & Co. Inc., Providence, R. I. At the same time, Leonard G. Tubbs was appointed assistant general sales manager. Mr. Cobb had been Southern sales manager since leaving the army in 1945. He joined Arnold Hoffman in 1934 immediately after graduation from Clemson. Mr. Tubbs has been Northern sales manager since 1945. He joined Arnold, Hoffman in 1939. Reid Tull, lately superintendent of the rayon division of North Carolina Finishing Co., but before the war with Arnold Hoffman, has been appointed manager of the Philadelphia office, succeeding David L. Bockius who retires after 47 years with the company. Arnold Hoffman has merged its Boston sales office with headquarters office in Providence. William T. Clarke, lately Boston manager, will become the Providence sales manager and have supervision over the New England sales force.

THOMAS A. PRINTOR has been elected president of Napco Chemical Co., Harrison, N. J., succeeding Charles P. Gulick, one of the company's founders and president since 1932. Mr. Gulick will continue as chairman of the board. Mr. Printor joined Napco in 1922 as a salesman and shortly became New England district manager. He was later transferred to the Harrison office in charge of the Textile Div. He was elected a director in 1936 and a vice president in 1938.

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* *The Damp-Tex System*

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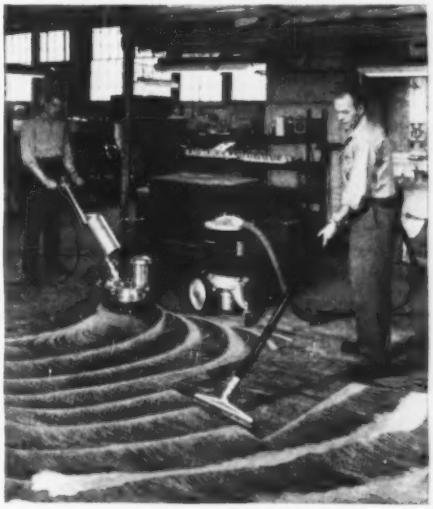
Solve it with the KENT Fast-Cleaning Team!

Keep your floors clean and you keep profits up! Less spoilage of your product . . . higher worker production . . . less man-hours lost through injury . . . more sanitary . . . better appearance!



THE KENT FAST-CLEANING TEAM IN ACTION

Pictured on the left is the KENT Floor Scrubbing Machine for fast cleaning of all types of floors. On the right is the KENT Electric Mopper for picking up dirty scrub water quickly, completely—even out of cracks and crevices. Makes floors dry rapidly! It can be converted for picking up dry dirt too!

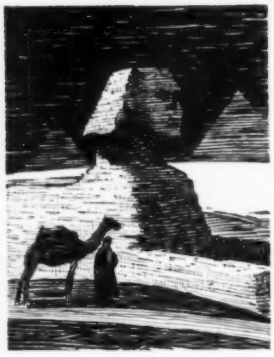
If you missed the KENT Display at the Knitting Arts Exposition, you can get information on the KENT "Fast-Cleaning Team" by writing to—

THE KENT COMPANY, INC.

422 CANAL STREET ROME, NEW YORK

Representatives in Principal Cities

Time Tested



For 56 years Heineman has been a successful processor of silk, nylon and rayon yarns for the hosiery and knitting trades.

Time has tested our reputation for workmanship and reliability.

Heineman Famous for Quality since 1893

OSCAR HEINEMAN CORPORATION

Division of Aetna Industrial Corporation

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M·B "AMOSKEAG" PNEUMATIC ROLL PICKER

MODEL A.V.T.
20,000 R.P.M.

This is NOT a grinder, but the original pneumatic tool especially designed for the SPECIFIC Purpose of

REMOVING LINT and FLY

from the top rolls and other parts of the drafting elements on

SPINNING FRAMES also ROVING FRAMES

Spindle design permits using PICK (which gathers the fly and lint), 3/16" diameter by 5" long when used on Spinning Frames and 3/16" diameter by 7" long when used on Roving Frames. Exhaust air directed back of roll picker to prevent fly and lint from being blown into yarn when spinning . . . PATENT APPLIED FOR. Weight only 14 oz. Special grease-sealed bearings. No lubrication required.

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NEWS ABOUT *Suppliers*

service have been consolidated into a single department to be known as the Research & Development Dept. K. H. Klipstein, assistant general manager, Calco Chemical Div., is in charge of this department.

Scheuer & Co., New York, N. Y., has added Arthur M. Horn to its staff to specialize in the rayon-fabric trades. Mr. Horn has been a cloth broker on his own account and was recently a department head with Cohn-Hall-Marx Co.

Seydel-Woolley & Co., Atlanta, Ga., has formed a new Finishing Div. which will manufacture chemicals and render service to the wet-processing branch of the textile industry. Plant expansion for the manufacture of these products has been made, and among the products offered are the following: detergents, wetting agents, dye-bath assistants, desize assistants, softeners, Sanforized-process oils, kier oils, scouring agents, soluble oils, and coning oils. David Meriwether, Greenville, S. C., is general sales representative for the new division. He spent 10 years before the war with Southern Bleachery & Print Works, Inc., Taylors, S. C. He was lately vice president and general manager of the Rockland Bleach & Dye Works, Brooklandville, Md. He will establish permanent residence in Atlanta.

Dexter Chemical Corp., New York, N. Y., has appointed Dudley B. Setzler as technical sales representative of its Textile Chemical Div., covering Georgia, Alabama, and Tennessee. He was for 12 years in various capacities with American Enka Corp. and the last four years has been technical sales representative in Georgia and Alabama for Quaker Chemical Co. His home is in Rome, Ga.

C. M. Kemp Mfg. Co., Baltimore, Md., has elected J. Clarence Kimpel, formerly secretary and treasurer of the corporation, to be president and chairman of the board, succeeding the late Wallace W. Kemp. Edward J. Funk, Jr., was elected vice president and will continue as chief engineer. Charles E. Wilbur, formerly assistant secretary and treasurer, succeeds Mr. Kimpel.

Sun Chemical Corp., Graphic Arts Group, has moved from 100 Sixth Ave., New York, to the Sun Chemical Bldg. at 10th St. and 44th Ave., Long Island City. This move centralizes Sun's operating and administrative functions.

FRANK D. NICKEL-LEAN, sales manager of Prince, Smith & Stells, Ltd., of Keighly, England, was recently a visitor in the United States. He made his headquarters at the Boston office of Atkinson Haserick & Co., his firm's representatives in this country and Canada for English system machinery.

T. E. Lucas Associates, Inc., Charlotte, N. C., has been organized with capital stock of $100,000 to carry on a general textile machinery, chemical, and supply business. Incorporators are T. E. Lucas, Annis Lucas, and Simons Lucas, all of Charlotte.

United States Testing Co., Inc., Hoboken, N. J. has opened a new radio-active isotope laboratory which is designed to bring this new tool for research within reach of small and medium-size businesses. The laboratory will be under direction of Dr. T. S. Taylor and supervised by J. J. Pescatore, who was trained at the Oak Ridge Institute of Nuclear Studies, conducted by the Atomic Energy Commission at Oak Ridge, Tenn.

Owens-Corning Fiberglas Corp., Toledo, Ohio, has set up a General Products Div. at the main offices in Toledo, and a Textile Products Div. headquartered at the Fiberglas Bldg., New York. A Pacific Coast Div. at Santa Clara, Calif., was established last year. W. P. Zimmerman, in addition to his duties as Fiberglas executive vice president, was named manager of the General Products Div. J. H. Thomas,

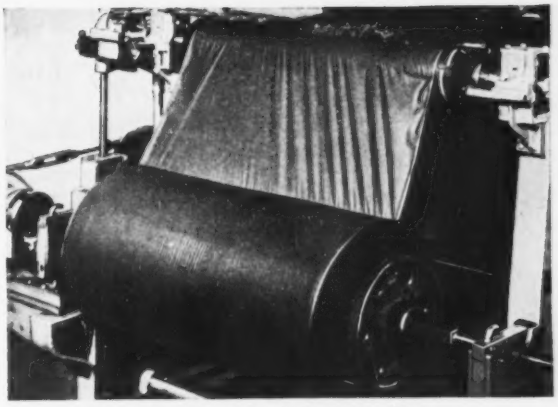
TACKY?

convert into perfect rolls of narrow width on

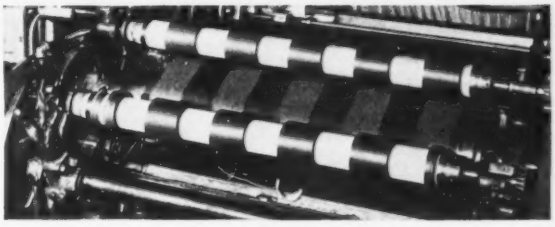
Camachine 26-3A

Adhesive tapes and other tacky surfaced fabrics, papers, rubbers and plastics are converted into top quality rolls, firmly and evenly wound and measured to accurate width on Camachine 26-3A. Handles web up to 56" wide, producing rolls as narrow as ½" up to 17¾" diameter. Web speed range up to 400 fpm. The electric eye side guide control is not standard, but may be specified as extra equipment. Write for illustrated literature.

Camachines
FOR FAST, TOP QUALITY ROLL PRODUCTION
... the world over



Below: using two rewind shafts for positive roll separation



CAMERON MACHINE COMPANY, 61 POPLAR STREET, BROOKLYN 2, N. Y. AA-181A

Broken Picks?

the NASH 79 AUTOMATIC QUILL POLISHER
For Refinishing Loom Bobbins

The reduction of broken picks is one of the features of the Nash No. 79. Running quills through keeps them in perfect condition . . . assures clean, smooth quills at all times, free from sharp surface projections and burnished to a high, dry luster.

No harsh abrasive action is employed during the operation and the original finish coating of the quill remains intact. All dirt is removed from grooves and the resultant polish has a surface free from any deposit. Repeated polishing of quills through the Nash No. 79 will in no way damage the quills or reduce their life.

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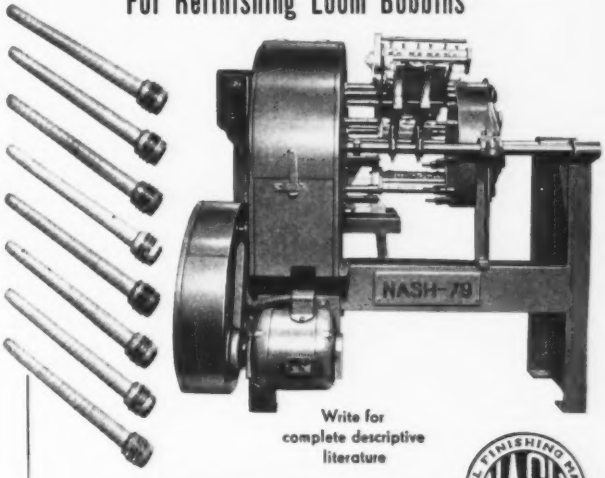
We also manufacture Nash 88 and Nash 37 Automatic Refinishers for throwing bobbins.



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2367 N. 30TH STREET, MILWAUKEE 10, WISCONSIN

SPECIAL FINISHING MACHINES · NASH · SINCE 1890

An Unsupervised WATCHMAN is like a school crossing without a Policeman. IT'S DANGEROUS!

Why risk fire, theft and malicious damage to your plant? Why wonder whether your Watchman is on the job when you can be sure with a

DETEX GUARDSMAN WATCHCLOCK SYSTEM

The GUARDSMAN provides a tamper-proof record of your Watchman's activities every minute of his tour. Gives unbroken, mechanical supervision during long week-ends and plant shutdowns. There's no need for a supervisory employe to return to the plant to change the dial. Quickly pays for itself in permanently reduced insurance premiums. Approved by Underwriters' Laboratories, Inc. and Factory Mutuals Laboratory.

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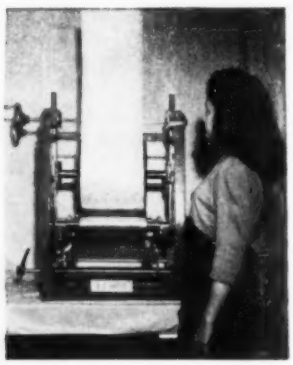
Sales and Service in All Principal Cities

LABORATORY AND RIBBON PRINTING MACHINE



PRICE—Complete with stand and Vickers Hydraulic vari speed drive 10 to 100 yards per minute—$850.00

LEMBO MACHINE WORKS INC.
248 East 17th St. Paterson, N. J.
MANUFACTURERS OF VINYL PRINTING MACHINES
1 to 4 colors—up to 80" wide.
Complete specifications and price on request.

NEWS ABOUT *Suppliers* (Continued)

vice president, was appointed general manager of the Textile Products Div. L. R. Kessler is general manager of the Pacific Coast Div. Transferred to the Textile Products Div. are the electrical section, headed by R. J. Black, and the plastics section, headed by Ralph Perkins.

General Aniline & Film Corp., New York, N. Y., has opened its new pilot plant at Grasselli, N. J., where derivatives of acetylene will be produced under high pressures and elevated temperatures. Presently, the work being carried on involves two processes, vinylation and ethynylation. The vinylation products include methyl, ethyl, butyl, and isobutyl vinyl ethers.

Westvaco Chemical Div., Food Machinery & Chemical Corp., New York, N. Y., is erecting a second phosphorus furnace at its plant in Pocatello, Idaho, and will provide expanded facilities for converting phosphorus from this second unit to soluble phosphates at Carteret, N. J., and through the erection of a new phosphate plant on the Pacific coast.

Goodyear Tire & Rubber Co., Akron, Ohio, has appointed A. E. Polson as technical representative of its Chemical Div. The Mechanical Goods Sales Div. has been divided into four sales divisions. Eastern Sales Div., consisting of Boston, New York, Pittsburgh, and Cleveland districts, will be in charge of O. A. Schilling. Central Sales Div., comprising Chicago, Detroit, Minneapolis, and Cincinnati districts, will be under the supervision of H. E. Langdon. R. B. Warren will take over the Southern Sales Div., which includes Charlotte, Atlanta, St. Louis, and Dallas districts. R. G. Abbott, who will continue as district manager in Los Angeles, will head the Western Sales Div.

Norcross Corp. has moved its main office and plant to 247 Newtonville Ave., Newton, Mass. The new plant will provide increased manufacturing capacity for recording viscosimeters, pressure regulators, and other items recently developed. Sales and service for New England, Canada, New York, New Jersey, and Pennsylvania territories will also be handled by this office. The office in Charlotte, N. C., will continue to be used for sales and service for mills in the Southern states.

A. G. FISHER, JR., has been appointed Southeastern sales representative for E. F. Drew & Co., Inc., New York, N. Y. From headquarters at Greenville, S. C., he will be responsible for sales and services of Drew's textile chemicals, detergents, finishing agents, sulphonated oils, and textile specialties throughout the territory. He was recently assistant superintendent of the finishing plant of Dan River Mills.

National Aniline Div., of Allied Chemical & Dye Corp., New York, has begun construction of a $3,500,000 dyestuffs plant at its Buffalo works. This will bring its total expenditures for plant expansion in Buffalo to over $10,000,000 in the last five years.

Morningstar, Nicol, Inc., New York, N. Y. is offering improved grades of tapioca, potato, and corn dextrines made possible by the recent installation of special-design dextrine-processing equipment and manufacturing methods at its Hawthorne, N. J., plant.

Meredith, Simmons & Co., Ltd., the Canadian subsidiary of National Starch Products, has elected Arthur B. Meredith as chairman of the board. Frank Greenwall is now president; Ronald M. L. Francis, executive vice president and general manager; and Ernest Hofmann, vice president in charge of operations at Montreal. Berkley V. Schaub, present New York sales manager, will assume the position of Toronto sales manager.

Eriez Mfg. Co., Erie, Pa., has appointed S. G. McKerrall as district sales representative for Alabama to handle the company's complete line of permanent non-electric magnetic separators.

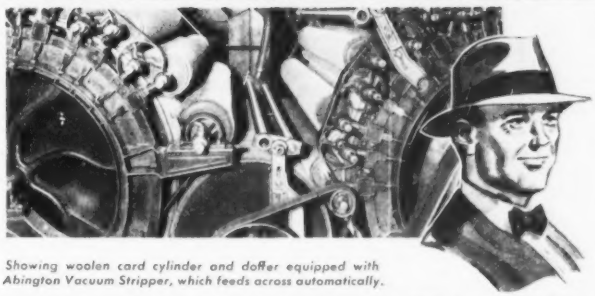
In Cotton Classing as in Color Matching Macbeth Skylights are standard equi ment

Cotton classers everywhere have standardized on Macbeth Skylights.

Just as dyehouses and mills all over the world have come to regard the *constant, true north sky* quality of Macbeth Daylight as an infallible, indispensable color matching aid, so now the cotton industry is adopting the Macbeth Skylight for quick, easy, sure cotton classing.

MACBETH CORPORATION
227 W. 17th Street, New York 11, N. Y.
Southern office:
513 Tryon Street Charlotte, N. C.

Photo courtesy F. M. Crump & Co., Memphis, Tenn.



Showing woolen card cylinder and doffer equipped with Abington Vacuum Stripper, which feeds across automatically.

"ABINGTON VACUUM STRIPPING Saves us over 70% of our former cost of stripping cards."

FOR YOUR WOOLEN AND WORSTED CARDS

THE BEST MILLS are using Abington Stripping, in steadily increasing numbers, because of results like the following: Abington Vacuum Stripping saves 60% to 90% of Stripping cost through its automatic features. Such reports as: "Six men replacing 12 on stripping," are common from users.

Down time for stripping is materially reduced. Often the increased production equals an extra set of cards. 45 minutes makes a color change, instead of 1 to 3 hours.

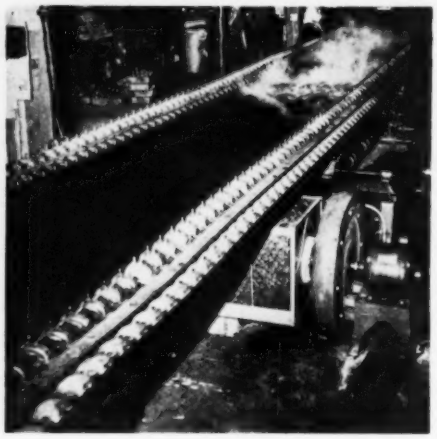
Abington Vacuum Stripping assures thorough removal of embedded dirt and fibre; 100% dust-free; quickly performs extra stripping of cylinders and doffers if desired; helps preserve sharpness and alignment of clothing wires—all of which definitely enhances quality.

Request STRIPPER CATALOG

HIGHLY ADVANTAGEOUS IN BOTH LARGE AND SMALL MILLS. Equally Important Advantages in COTTON MILLS

ABINGTON TEXTILE MCHY. WKS. 19 CONGRESS STREET BOSTON, MASS., U.S.A.

Vacuum Card Strippers • Yarn Dyeing Systems • Weaver's Knotters
PLANT: ABINGTON, MASS. SOUTHERN OFFICE: JOHNSTON BLDG., CHARLOTTE, N. C.



RED-RAY BURNERS

under open tenter frame increase drying speed on rayons. Production Raised—Costs Lowered.

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RED-RAY MANUFACTURING CO., INC.

455 West 45th Street New York 19, N. Y.

For Maintained Shrinkage—
Perfect Finish—Long Life

HUYCK

→COMPRESSIVE SHRINKAGE←

BLANKETS

for use in shrinking fabrics to the *"Sanforized"* standard by the Compressive Shrinkage process, are daily meeting the most exacting requirements of finishers throughout the industry. From the lightest and finest fabric to the heaviest denim, there is a special Huyck blanket to meet your specific needs.

Huyck blankets retain high shrinkage and finish properties to the last.

***PALMER BLANKETS*—also available for your special requirements.**

Write for information
or see our representative

F. C. HUYCK & SONS
KENWOOD MILLS
Rensselaer, N. Y.

NEWS ABOUT Mills

Cotton Mill News

Bibb Mfg. Co., Macon, Ga., plans construction of office building addition to No. 2 mill. Building will cost between $250,000 and $300,000; and work is expected to get under way soon. The Payne mill unit will be air-conditioned at a cost of $300,000.

Borden Mfg. Co., Goldsboro, N. C., has spent $250,000 on modernization program, and additional expenditures are planned. Program was started several years ago, and machinery purchased in 1941. War delayed program until June, 1948, when new installation started.

Chicopee Mfg. Co., Cornelia, Ga., has completed construction of 10,000 sq. ft. addition to main plant for production of Lumite woven screening and fabrics.

Dundee Mills, Griffin, Ga., has started test runs on new continuous-dye range installed in addition to mill to be operated by Lowell Bleachery South. Tenter frame has been installed. Continuous open-width bleaching range is also in operation.

Erwin Cotton Mills Co., Plant No. 8, Stonewall, Miss., is having plans prepared by Lockwood Greene Engineers, Inc., Spartanburg office, for domestic water supply and sanitary sewer systems for village of about 215 houses. Work will cost about $200,000 and bids will be asked in about 60 days.

Gaffney Mfg. Co., Gaffney, S. C., has started work on a $500,000 air-conditioning system. Daniel Construction Co., Greenville, S. C., has been awarded contract. Carrier Corp., Charlotte, will install equipment.

Howell Mfg. Co., Cherryville, N. C., is erecting 24x109 ft. addition to carding department. Building will be equipped with fluorescent lights and automatic sprinklers, and is expected to be completed in immediate future.

Incor, Inc., Rosario, Argentina, has completed layouts on 25,000-spindle cotton mill to cost $3,000,000. Machinery is being shipped from United States.

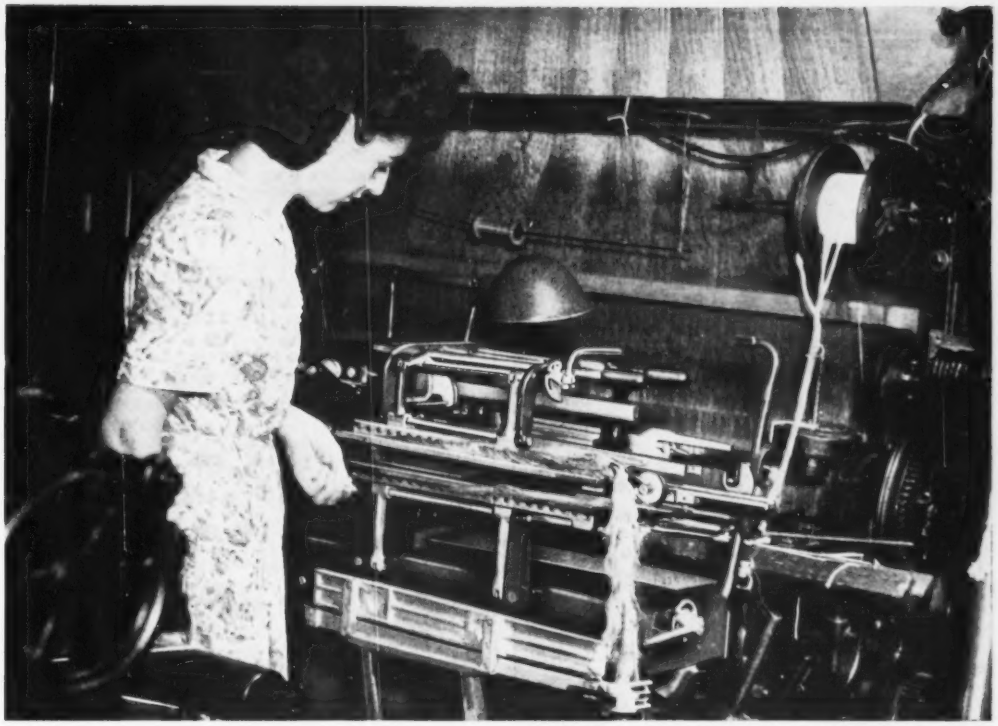
Joanna Textile Mills, Goldville, S. C., is constructing addition to warehouse at cost of $100,000.

Kendall Co., unit at Newberry, S. C., has let contract to McKoy Helgerson Co., Greenville, S. C., for new addition to Oakland mill. Floor space will cover 28,000 sq. ft. New carding, spooling, and warping machinery will be installed as part of a modernization program costing about $1,500,000. Company is also constructing large office building at Charlotte, N. C., at cost of $165,000. Building will house office staff now located at Paw Creek.

Lane Cotton Mills Co., New Orleans, La., has work well under way on $2,000,000 modernization and expansion program. Work will include new equipment, overhauling of machinery, painting, lighting, air conditioning and other improvements.

Limestone Mfg. Co., Gaffney, S. C., a division of M. Lowenstein & Sons Co., has begun modernization program that will cost about $1,750,000. Buildings are being put in readiness. It is estimated that it will require about 18 months to complete installation of new carding, spinning, opening-room, spooling, and warping machinery. Every spinning frame will be removed and junked, or sold.

Lydia Cotton Mills, Clinton, S. C., has awarded engineering contract for new $200,000 cotton-and-cloth storage warehouse addition to McPherson Co., Greenville, S. C. Fiske-Carter Construction Co., of Spartanburg and Greenville, S. C., has been awarded construction contract. Addition will add ap-



PHOTOGRAPH TAKEN AT HAFNER ASSOCIATES, LONG ISLAND CITY, N.Y.

BARBER-COLMAN PORTABLE WARP TYING MACHINE TIES VELON TO COTTON ON JACQUARD LOOM — SAVES 80% OF DOWN TIME

Here is an excellent example of the versatility of the Barber-Colman Portable Warp Tying Machine, showing also its ability to reduce loom down time by a substantial amount. In this case two *different* types of yarn are to be tied together, since the finished cotton warp is to be replaced by a new velon warp. With hand tying-in as the only practical alternative, the machine shows a reduction of 10 to 12 hours in down time. Note also (from the table of data) the production of the machine — close to 3500 ends per hour *average* including loading, tying, and unloading time. Barber-Colman *Portable* Warp Tying Machines have proved to be profitable investments in hundreds of successful mills. They are easy to operate, adaptable to a wide variety of conditions, accurate, reliable, and have shown very low maintenance costs. Your Barber-Colman representative is able through experience to advise you regarding the possible applications in your mill — consult him at the next opportunity.

DATA FROM THE MILL

JACQUARD LOOMS

MODEL "LS" PORTABLE WARP TYING MACHINE

Loom Warp—Selvage 40s/2x2 Cotton, Body 60s/2 Cotton } 9216 ends

New Warp—Body .005" diameter Velon Yarn—9216 ends

Machine Tying-In Time, One Operator — 2½ to 3 hours

MANUAL METHOD

Hand Tying-In Time — 12 to 15 hours

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U. S. A. MANCHESTER, ENGLAND

BARNES SERVICE
Consulting Engineers
TO THE TEXTILE INDUSTRY FOR OVER ½ CENTURY

Surveys—Reorganizations—New Plant Developments for Cotton, Wool, and Synthetic Yarn and Cloth Processing, Bleaching, Dyeing, Printing and Finishing.

★ Plant Appraisals ★ Mechanical and Operating Surveys—New Methods ★ Scheduling and Planning ★ Work Load Studies, Job Analysis and Evaluation, with Incentive Plans ★ Standard Cost Installations ★ Cost Control Methods

Labormeter Burden-meter Waste-meter

BARNES TEXTILE ASSOCIATES, Inc.
10 HIGH STREET, BOSTON 10, MASS.
318 MONTGOMERY BLDG., SPARTANBURG, S. C.

The following questions were among those asked and answered at the *Operating and Time Study Engineering Clinic* recently held by the Barnes organization.

1. How does Operation Study differ from Time Study? What is the function of Operation Studying?
2. How do the time study methods employed by Barnes Engineers differ from others? Why are they different?
3. How are Time and Operation study data used in connection with the Barnes Labormeter?
4. In the installation and maintenance of the Barnes Standard Cost System, how are operating and time study data used?

MANY INDUSTRIAL ROLL PROBLEMS are solved by using

SHAF-TITE* ROLLS

Many patented constructions provide strongest possible shaft setting. Your choice of many different types and materials—wood, rubber, iron, brass, stainless steel plastic, etc. Whatever your roll problem, put it up to Rodney Hunt.

SEND FOR NEW CATALOG NO. 48
Most complete publication of its kind

Industrial Roll Division
RODNEY HUNT MACHINE CO.
66 Maple Street, Orange, Mass.

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NEWS ABOUT *Mills*

(Continued)

proximately 48,000 sq. ft. of space to present storage facilities. Other improvements already completed or underway are installation of air conditioning in weave and cloth rooms, new toilet tower, renovation of existing toilet towers, and modernization of waste houses.

Moore Fabric Co., Pawtucket, R. I., will construct one-story brick addition, measuring 91x115 ft., at cost of $50,000, for use as weave shed. John V. Moore is president and treasurer of company.

Naumkeag Steam Cotton Co., Salem, Mass., plans construction of new plant at Penrose, N. C. Company plans to ship some of its present machinery to Penrose plant.

Pawtucket Standard Braid Co., Pawtucket, R. I., has asked bids for two-story addition, about 50x215 ft. Dwight Seabury Co., Pawtucket, is architect.

Pepperell Mfg. Co., Opelika, Ala., has awarded contract to Batson-Cook Co., West Point, Ga., for addition to local bleachery. Robert & Co., Atlanta, Ga., is architect and engineer.

Pine Bluff, Ark.—Plans and specifications for new building of Pinecrest Cotton Mills, Inc., have been received and sent to contractors seeking to bid on job. Seligman & Reid, Pine Bluff architects, will work with Hardy & Schumaker, architects, of Kansas, Mo., who are principals in project. Building will be of one-story brick construction, will have 90,000 sq. ft. of floor space, and will be located on Missouri Pacific Lines trackage on outskirts of Pine Bluff. Cost will be about $1,500,000. Chamber of Commerce provided 20-acre tract of land for project.

Providence Pile Fabric Corp., Pawtucket, R. I., has arranged for increase in capital to $300,000 and 600 shares stock, no par value, for general expansion.

Ragan Spinning Co., Gastonia, N. C., has awarded contract to Triangle Construction Co., Greenville, S. C., for addition to mill. Biberstein & Bowles, Charlotte, N. C., is architect.

Rayflex Mfg. Co., Red Hill, Pa., has closed bids for one-story addition, reported to cost over $75,000. Charles M. Talley, Telford, Pa., is architect.

Riegel Textile Corp. is installing 5,000 new spindles at plant at Trion, Ga. Installation of new Whitin spinning spindles marks further step in Riegel's improvement program.

Rockfish-Mebane Yarns Mills, Inc., Cumberland, N. C., has constructed two-story brick and concrete addition, with 15,000 sq. ft. of floor space. Company is now installing 12 new Saco-Lowell combers and 51 new Whitin cards. Eleven of new cards are replacements.

Ruberoid Co., 500 Fifth Ave., New York, N. Y., plans addition to prepared roofing products plant at Mobile, Ala., to be equipped as a felt mill for production of felt bases for roofing materials. Cost reported over $350,000.

St. Laurence Textiles, Ltd., Marieville, Ont., has plans nearing completion for new three-story mill at Hawkesbury, Ont., reported to cost over $160,000, with equipment. T. Pringle & Son, Ltd., Montreal, Que., is architect and engineer.

Spartan Mills, Spartanburg, S. C., has completed modernization of slasher room. Third cylinder has been added to each of four machines and metal hoods have been installed. Vapors are exhausted through ducts equipped with fans.

Valley Mills Corp., Columbiana, Ala., new cotton mill, has begun operations.

Wool Mill News

Berkshire Woolen Co., Pittsfield, Mass., has signed contract with South Carolina Public Service Authority for 10-year lease on wartime Army Air Force in transit depot at Moncks Corner, S. C. Plant will be expansion of company's operations and not a transfer of activity. D. T. Noonan, Jr., will be superintendent and will move to Charleston shortly to begin training of personnel. Employment of between 1,000 and 2,000 persons is expected as operations gain headway.

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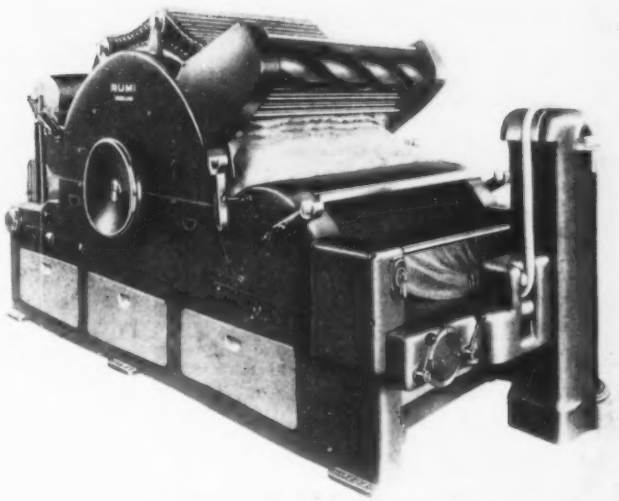

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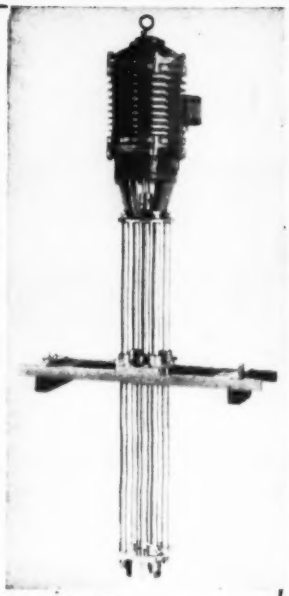

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NEWS ABOUT *Mills*

(Continued)

socket, R. I., has arranged for increase in capital to $700,000, for general expansion in operations.

Denver, Col. — Complete wool-testing laboratory will be opened here before June 1. Arrangements for this have been made with Herb Block, executive vice president of United States Testing Co., Hoboken, N. J.

Empire Worsted Mills, Jamestown, N. Y., plans further improvement of plant and equipment during coming year. Spinning and twisting departments are to have new machinery installed.

Pioneer Worsted Co., New Braunfels, Tex., plans one-story addition for expansion in scouring and combing mill. Cost reported about $185,000, with equipment.

Potomac Worsted Spinning Mills, Keyser, W. Va., has been purchased by Scott S. Blair of Westminster, Md. Purchase included 70,000 sq. ft. of manufacturing space on four-acre tract.

Renfrew Woolen Mills, Renfrew, Ont., expects to have construction of new carding and picker room building completed by end of June. Machinery consists of complete tandem blending unit and six sets of modern 60x60-in. cards.

M. T. Stevens & Sons Co. plans to use large ordnance plant at Milledgeville, Ga., for woolen mill. The Dublin, Ga., new unit, has reached full production on light-weight woolens. Plant's equipment consists of Whitin wool-spinning frames, Abbott automatic quiller, and Whitin direct warp-dressing unit.

Talbot Wool Combing Co., Norton, Mass., is awarding separate contracts for mill addition to be equipped for manufacture of nylon. Roofing and sheet metal contract has been awarded to Universal Roofing & Sheet Metal Co., 140 Phillips Ave., New Bedford. Painting, heating, plumbing, and electric work will be done by company's maintenance force.

Virginia Woolen Co., Winchester, Va., has begun installation of additional equipment at Varel Mills, Inc., Middleway, W. Va., subsidiary interest, for increased capacity.

Volney Felt Mills, Inc., Chicago, Ill., has let contract to Campbell-Lowrie - Lautermilch Corp., Chicago, for new branch on St. Johns River, Jacksonville, Fla., for production of felts for base material for roofing service. Company is subsidiary of Lloyd A. Fry Roofing Co., Chicago, which will build large plant at same location that will use production of felt mill.

West Bend Woolen Mills, West Bend, Wis., has completed rebuilding of first unit of mill, comprising two-story building, following fire which destroyed mill several months ago. John Topzant, Milwaukee, Wis., is architect.

Worumbo Mills, Lisbon Falls, Me., has been practically re-equipped with new machinery. Every loom in plant is now less than eight years old, and many of them are new; most spinning frames are new, as is all of dyeing and finishing equipment. New steam-boiler plant is automatic to extent that only one man is employed to run it.

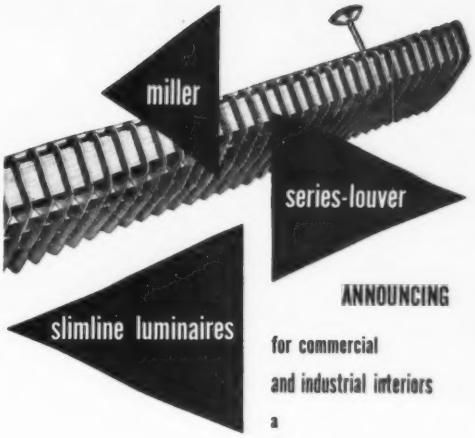
Ziock Industries, Inc., Brownwood, Tex., is scheduled to begin operations on new mill within two months. Plant, which will occupy 50,000 sq. ft. of floor space, will dye, blend, card, spin, weave, and finish material.

Synthetic Mill News

Accurate Textile Corp., New Bedford, Mass., has recently been formed to weave silk fabrics. Plant occupies first floor of former Butler Spinning Mill. Rebuilt and modernized Crompton & Knowles looms and Stafford looms have been installed. Officers are H. Shins, head and selling agent; G. Stahlman, treasurer and production manager; and L. Lipari, secretary and office manager.

Aiken Mills, Augusta Weaving Div., Augusta, Ga., has begun weaving glass-fiber cloth in plant formerly occupied by Singleton Silk Mills. Plant has been renovated and equipped with special machinery.

Amoskeag-Lawrence Mills, Manchester, N. H., has been granted $650,000 industrial



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NEWS ABOUT *Mills* (Continued)

loan by Manchester Savings Bank to finance part of concern's $2,500,000 expansion program, more than half of which has already been completed.

Bloomsburg Mills, Inc., will have new weaving mill at Dallas, Pa., ready to start production on limited scale early in April. Plant will be known as Fernbrook Park Mill Div. and will have 288 box looms and 25,000 throwing spindles for twisting crepe yarns.

Burlington Mills Corp., unit at Bristol, Va., has begun construction on brick building to be used for expanded weaving operations and increased warehouse space. Alley Construction Corp., Bristol, Va., is contractor.

E. I. du Pont de Nemours & Co., Inc., Nylon Div., Wilmington, Del., has let contract to Boyle Construction Co., Sumter, S. C., for excavations and grading of site for proposed synthetic fiber mill at Camden, S. C., to produce Orlon. Cost estimated at several million dollars.

Erwin Cotton Mills Co., Nease, N. C., and **Pee Dee Mills, Inc.**, unit at Rockingham, N. C., are installing rayon-weaving equipment. Erwin mill is to be devoted entirely to rayon production and will weave both spun-rayon and filament goods. Equipment will include 130 50-in. XD Draper looms and some spinning machinery. Pee Dee Mills will have 100 looms and 10,000 spindles and will produce spun-rayon fabrics. Change-overs are expected to be completed in about two months.

Fischer Mills, Union City, N. J., has leased one-story building at 3700 Dell Ave., North Bergen, N. J., for manufacture of rayon fabrics.

Frantex Corp., Pawtucket, R. I., has been incorporated with capital of 600 shares of stock, no par value, to manufacture rayon fabrics. G. A. Oster, 55 Carver St., Pawtucket, is principal incorporator.

Navaho Weaving Corp., New York, N. Y., has bought last unit of Esmond Mills, Esmond, R. I. Revenue stamps attached to deed indicated sale price of approximately $89,000. New York firm, whose interests include rayon-weaving plant in part of former Davol Mills, Fall River, Mass., has purchased No. 3 Esmond crib-blanket mill as expansion move. Unit comprises approximately 50,000 sq. ft. of floor space, and 5.34 acres of land. Navaho proposes to open rayon weaving plant. Opening depends upon delivery of equipment.

New London Mills, Inc., 38 Pequot Ave., New London, Conn., has asked bids for erection of one-story rayon-fabric mill. Cost reported in excess of $200,000. Fletcher Thompson, Inc., Bridgeport, Conn., is architect and engineer.

Pilot Throwing Co., Inc., Pilot Mountain, N. C., has obtained certificate of incorporation from North Carolina secretary of state to manufacture yarns, with authorized capital stock of $100,000.

William Skinner & Sons, Holyoke, Mass., has placed contracts for $300,000 rayon-weaving addition.

Knitting Mill News

Ardmore Hosiery Mills, Ardmore, Tenn., will occupy building which is to be constructed for company.

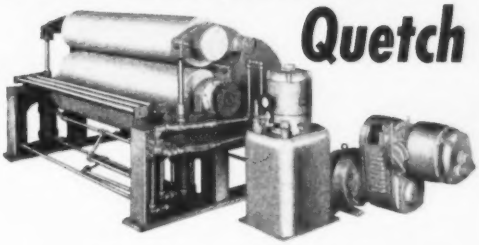
Belvedere Hosiery Co., Charlotte, N. C., will begin to install 60-gage Karl Lieberknecht 32-section, automatic full-fashioned machines. New installations will add 1,000 doz. pr. per week to plant's existing production of 51-gage goods.

Burlington Mills Corp., unit at Bristol, Va., plans to double size of Royal Oak and Town House plants. Construction is under way at Town House and project is scheduled for spring completion. C. W. Allen Co., Bristol, is contractor for inside work. Work is expected to begin shortly at Royal Oak plant. New machinery is to be installed at both plants.

Cherokee Hosiery Mill, Athens, Ga., is newly established plant for manufacture of hosiery.

Cooper, Wells & Co., St. Joseph, Mich., is shifting knitting operations from St. Joseph

PARKINSON'S Quetch



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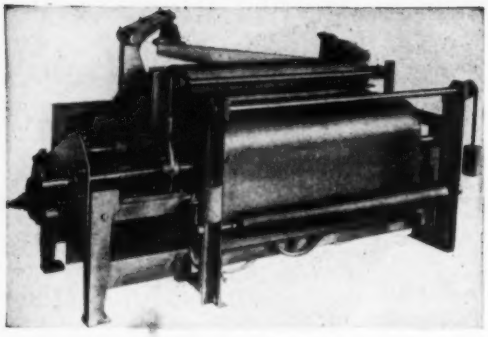

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NEWS ABOUT *Mills* (Continued)

plant to mill at Decatur, Ala. Alabama mill has both 45-gage and 51-gage machines.

Dexdale North Carolina Co., Inc., Willard, N. C., is being dismantled; and machinery, which consists of 428 single-section full-fashioned machines and 2,000 throwing spindles, is being shipped to Dexdale Co., Lansdale, Pa.

Gotham Hosiery Co., Inc., Philadelphia, Pa., is now spending $325,000 for 60-gage knitting machines. Outdated machines will be removed as new ones are set up, and no additional buildings will be required to house expansion.

R. L. James & Son Hosiery Mills, Marion, N. C., plans to double production by addition of new knitting machines, loopers, dye machines, and boarding forms. New equipment, which is expected to be in operation by Apr. 1, will give mill production of 5,000 pr. of men's socks weekly.

Jewel Knitwear, Inc., New York, N. Y., has been incorporated with capital of $50,000, to operate plant for manufacture of outerwear. Ruth H. Beasley, 312 West 27th St., is principal incorporator and representative.

Josephine Mills, Inc., Marion, N. C., has moved into new plant which has 13,300 sq. ft. of floor space and houses 120 knitting machines.

Na-Rene Hosiery Mill, Inc., Quakertown, Pa., will occupy new and larger quarters in Trappe, Pa.

Norine Hosiery Mills, Asbury Park, N. J., will establish hosiery manufacturing plant at 1500 Stanton St., York, Pa.

Powell Knitting Co., Philadelphia, Pa., has sold its group of 4-story manufacturing buildings to Perfect Fit Products Mfg. Co., for $175,000 and will move to new leased quarters within city. Powell company's older knitting machines, now in storage, will be sold.

Royal Knitting Co., Ltd., 41 Norwich St. E., Guelph, Ont., is erecting one-story addition to plant at same address.

Levi Strauss & Co., 98 Battery St., San Francisco, Calif., men's and boys' half-hose, underwear, etc., has plans for new plant at San Jose, Calif., to be one-story, 150x220 ft., reported to cost in excess of $225,000, with equipment. William D. Lotz, San Jose, is engineer.

Terrell Hosiery Mills, Inc., Terrell, Tex., which is capitalized at $42,000 and is manufacturing infants' gassed and mercerized hosiery, is operating 12 circular-knitting machines, six of 160 needles, three of 180 needles, and three of 200 needles, along with four ribbers and six loopers.

Wanner Textile Co., Winchester, Va., will begin to manufacture knit underwear in building now nearing completion. Mill will employ 50 or more persons at start, with more workers to be added later. John J. Wanner, former manager of Winchester Knitting Mills, is president of company; and Stephen F. Sullivan, sales agent.

Dyeing & Finishing Plant News

Attleboro Dyeing & Finishing Corp., Seekonk, Mass., has work in progress for one-story brick boiler plant. Central Engineering & Construction Co., Pawtucket, R. I., has general contract.

King Richard Mills and **Millburn Mills**, West Warwick, R. I., have consolidated under name of Millburn Mills, Inc., with capital stock of $100,000.

Model Dye Works (Canada) Ltd., Huntingdon, Que., expects to begin operations in new plant in near future. Building is 100x100 ft. Alder J. Petit, is president; and Francois E. Cleyn, vice president.

Rock Hill Printing & Finishing Co., Rock Hill, S. C., is installing additional boiler, turbine, and addition to power house at cost of $1,000,000.

Rockland Bleach & Dye Works, Inc., Brooklandville, Md., has asked bids for erection of new one-story addition for expansion in mill.

Sylvan Textile Printers, Inc., 206 Sylvan Ave., Newark, N. J., has been organized to do application and novelty printing with lacquer. Equipment consists of three multi-color finishing machines with complementary equipment. Firm is starting out with 30 multi-color stock patterns.

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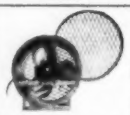
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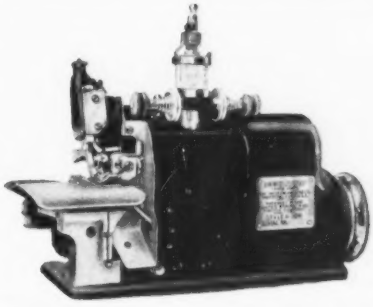
Textile World Staff Changes

WILLIAM A. NEWELL, new managing editor of TEXTILE WORLD, moves up from assistant editor. A former student at University of Massachusetts and Lowell Textile Institute and a graduate of the School of Textiles, North Carolina State College, his mill career includes employment with Farr Alpaca Co., Queen City Cotton Co., and Ashland Corp. Mr. Newell comes from a textile family and started contributing to textile publications ten years ago. At N. C. State he was editor of Textile Forum, the school publication.

WILLIAM B. DALL, now Assistant to the Manager, in charge of promotion and market research, lacked only a few months of being managing editor of TEXTILE WORLD for 20 years. An economics major at Amherst College, he started his journalistic career as a feature-story reporter for the New York Sun. Later he got into textile writing as a member of the editorial staff of the Journal of Commerce. He was market reporter for the Textile Manufacturers' Journal (one antecedent of TEXTILE WORLD); and shortly before the modern TEXTILE WORLD was set up as a monthly publication, he became managing editor. For years, he has been a fountainhead of knowledge on textile-industry facts and is admirably qualified for his new position.

ERNEST H. HELLIWELL, moving into the post of New England editor, has for eleven years been one of TEXTILE WORLD's best-known contributors, writing under the nom-de-plumes of "Seth Carter" and "R. M. McNeil," as well as under his own name. His textile career covers a span of over 40 years. He started as office boy in the cotton division of the Pacific Mills in Lawrence, Mass., and worked up to be superintendent of carding and spinning in the Pacific Yarn Mill Div. before the cotton division was liquidated. He was also overseer of carding and spinning at Kendall Mills, Pequot Mills, and Utica Knitting Co. He attended evening textile classes at Lowell Textile Institute, New Bedford Textile School, and M. I. T. (summer course in textile testing). He has organized and taught mill textile classes, including the Lawrence Industrial School textile classes.

RICHARD C. SCOTT, former hosiery-news editor of Women's Wear Daily, has been named assistant editor of TEXTILE WORLD. His mill experience dates back to 1938. For five years he was associated with Dan River Mills, Inc., successively as apprentice, second hand, and overseer. More recently he was with Esmond Mills, Inc., first as production superintendent at the firm's Bluefield, W. Va., plant; and, after the war, as sales and market analyst in New York. A graduate of Brown University, Mr. Scott's education also includes a year at the Sorbonne in Paris and two years of training at the Danville (Va.) Textile School. He is the son of the late Albert L. Scott, former president of Lockwood Greene Engineers, Inc.



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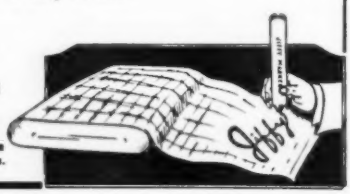


NEWS ABOUT Men

Ralph T. Marshall has been elected president of Utica & Mohawk Cotton Mills, Inc., and its subsidiary, Utica Willowvale Bleaching Co., Utica, N. Y. He will succeed **A. H. Crossman** who was elected chairman of board.

L. O. Hammett has resigned as president of Orr Cotton Mills, Anderson, S. C. He has been succeeded by **Joe J. Lyons**, general superintendent of Lowenstein-affiliated mills in area. Mr. Hammett is also president of Chiquola Mfg. Co., Homea Path, S. C., and will now devote his entire time to that plant.

William H. Belk has been elected chairman of board at Belvedere Hosiery Co., Charlotte, N. C. Other officers elected include **J. M. Hatch**, president; **H. S. Scott**, vice president; and **Z. A. Ross**, secretary and treasurer.

Donald Derby has been elected chairman of board of U. S. Finishing Co., Norwalk, Conn., at recent meeting.

W. B. Pennington, former vice president, has been named president of Anniston Mfg. Co., Anniston, Ala., to succeed the late F. A. Tyler.

William G. F. Price has been elected president and a director of Belding Heminway Inc., New York, N. Y. **J. P. T. Armstrong**, who has been president since 1937, becomes chairman of executive committee.

Gerald L. Bruck has been elected president of Bruck Silk Mills, Ltd., Cowansville, Que., succeeding his father, the late Isaac I. Bruck.

Stanley V. Bryant, former president of Carolina Mills Inc., Dillon, S. C., has joined Burlington Mills Corp., New York, N. Y., as assistant to **George C. Buscher**, head of cotton-yarn sales division.

Tracy A. Adams, consulting engineer of Barnes Textile Associates, Boston, Mass., has been appointed executive vice president and general manager of United States Finishing Co., succeeding **Jarred J. Mowry**, resigned. Mr. Adams will supervise modernization and rehabilitation program at four plants in Norwich and Sterling, Conn., Providence, R. I., and Hartsville, S. C.

Jay E. Garvin, assistant to president of Burlington Mills Corp., has been elected vice president of company; **Charles F. Myers, Jr.**, head of company's financial service department, has been promoted from assistant vice president to vice president; **John Harden**, head of public relations department for manufacturing division, has been elected vice president.

P. Huber Hanes, Jr., has been named vice president in charge of manufacturing of P. H. Hanes Knitting Co., Winston-Salem, N. C., succeeding **Spencer B. Hanes**, retired.

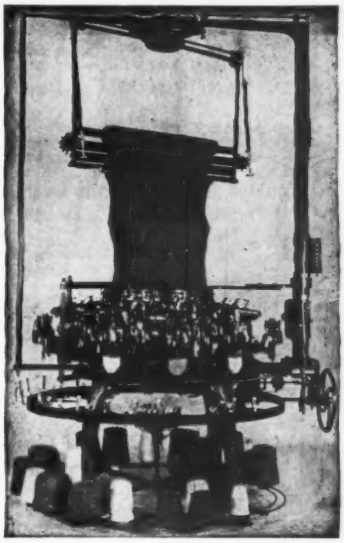
Edward C. Pfeffer, vice president of Cluett, Peabody & Co., Inc., Troy, N. Y., has retired.

W. H. Redding, vice president and sales manager of McCrary Hosiery Mills, Inc., Asheboro, N. C., has been elected a director of company.

R. A. Morgan has become general manager of Gold-Tex Fabrics Corp., Rock Hill, S. C., succeeding **W. B. Thomas**, resigned. Before accepting new position, Mr. Morgan was consulting engineer for textile plants.

J. F. Nicholl, general manager of Lumite Div. of Chicopee Mfg. Co. of Ga., Cornelia, Ga., and **G. H. Day, II**, general sales manager of Lumite products, have been elected vice presidents of Chicopee Mfg. Co. of Ga. Mr. Nicholl was also elected to board of directors.

James Bolton has been



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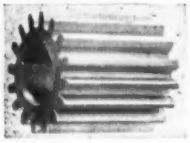

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NEWS ABOUT *Men* (Continued)

named executive vice president in charge of manufacturing and selling at Gosnold Mills Corp., New Bedford, Mass.

William A. Green has been made vice president and general manager at Glasgo Finishing Co., Glasgo, Conn. He was formerly plant manager at Housatonic Dyeing & Printing Co., Inc., and succeeds **Tom Eccleston**, retired.

Frank Sloan Graves has been named vice president of Callaway Mills, LaGrange, Ga. He was formerly sales manager of company's Industrial Fabrics Div.

Robert Anderson has been elected vice president at Cleveland Worsted Mills Co. He has been director of plant at Cleveland, Ohio, and was also in charge of its Ravenna mill.

R. K. Eaton, head of the department of yarn manufacturing at Clemson School of Textiles, Clemson, S. C., has retired from active duties after 25 years of service to the school.

T. E. Lawrence has resigned from filament yarn and staple fiber sales departments of Celanese Corp. of America, New York, to enter rayon-weaving business as vice president and director of Jola Mill Corp.

John J. Warnke, assistant manager of unit of American Woolen Co. at Webster, Mass., has become resident manager of company's Dover Mills, Dover, N. H. He succeeds **Royal P. White**, who is retiring.

Joseph A. Waugh has become technical advisor for M. T. Stevens & Sons, Rockingham, N. C., division.

Alden H. Burkholder has been appointed manager of rayon research for Industrial Rayon Corp., Cleveland, Ohio, with **Kenneth M. McLellan** and **Dr. George P. Standley** as assistant managers.

Kenneth S. Campbell has been named professor of textile chemistry and dyeing; **D. S. Hamby**, assistant professor of textiles in yarn-manufacturing department; **Ralph L. Parker**, assistant professor of textiles in department of fabric development and construction; and **Richard C. Davis**, assistant professor of textile chemistry and dyeing at School of Textiles, North Carolina State College, Raleigh, N. C.

G. Robert Dodson has been elected treasurer of Jantzen Knitting Mills, Portland, Ore. He replaces his father, **John R. Dodson**, who has retired.

Walter Jackson has resigned as agent of Rocky Gorge Woolen Co., South Berwick, Me.

Seth W. Bridges has been appointed superintendent of full-fashioned hosiery mill of Julius Kayser & Co., Hilton Village, Va.

Alan B. Sibley, of Greenville, S. C., has resigned as treasurer, and **M. G. Hardie**, as general manager of Laurens Mills, Laurens, S. C. Mr. Sibley, who is vice president of Judson Mill, Greenville, will devote his time to management of Judson organization and new Gerrish Milliken Mill, Pendleton, S. C. **W. M. Ford**, of Drayton Mill, Spartanburg, S. C., has been named to succeed Mr. Sibley as treasurer.

Robert W. Linscott, of Winchester, Mass., has been elected treasurer of Lincoln Mills of Alabama, Huntsville, Ala. He succeeds **Charles D. McDuffie**, who served as treasurer for last 17 years, and who has been elected vice president.

R. A. McCraney, general manager of Quitman Mills, Inc., Quitman, Ga., has been elected to board of directors.

George P. McClenaghan, Greenville, S. C., general manager of several mills of J. P. Stevens & Co., Inc., in Greenville area, has been elected member of board of directors.

Charles Elliott, former production manager and research director of Chipman-La Crosse Hosiery Mills Co., Inc., and Wiscassett Hosiery Mills, has been named sales representative for Knit Products Sales of North Carolina, Belmont, N. C.

George V. Atkinson has been appointed manager of decorative-fabrics section in Lumite Div. of Chicopee Mfg. Corp., Cornelia, Ga.

Ray A. Calvert has been ap-

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NEWS ABOUT Men (Continued)

pointed manager of Franklin Process Mill, Inc., Fingerville, S. C. He had been acting resident manager.

John Cumnock, formerly of Charlotte, N. C., has become general manager of Bloom Mills, Inc., plants at Monroe, N. C., and Gastonia, N. C., succeeding **French Campbell,** resigned.

Oliver May has resigned as treasurer of Textron, Inc.; and **F. H. Kissner,** a vice president of corporation, will assume duties of treasurer.

Ed Moorhouse, formerly with Brewster Dyeing & Printing Co., Paterson, N. J., has become plant manager of Housatonic Dyeing & Printing Co., Inc., Derby, Conn.

Harold A. McKew, carding-department overseer at Goodyear Clearwater Mills, Rockmart, Ga., has been appointed superintendent of Goodyear's textile plant in Sao Paulo, Brazil. He left on Mar. 17 to take up his duties.

W. O. Reed, overseer of spinning at Pomona Mfg. Co., Greensboro, N. C., has been promoted to manager in charge of carding, spinning, winding, and warping departments.

H. C. Davenport has become overseer of finishing at Colonial Woolen Mills, Cleveland, Ohio, succeeding **Almer Varga.**

O. H. Demers has been promoted to superintendent of dyeing and finishing at Julius Kayser & Co., Brooklyn, N. Y., succeeding **D. C. Andrews.**

E. H. deVaudreill, of Woonsocket, R. I., has become overseer of dyeing at Brooklyn Yarn Dyeing Co., Brooklyn, N. Y.

J. E. Dunn has become overseer of weaving at Gonzales Cotton Mills, Gonzales, Tex.

Carl W. Rumpp has been appointed production control manager of Arms Textile Mfg. Co., Manchester, N. H. Mr. Rumpp was formerly associated with Wiedemann Machine Co., Philadelphia, Pa.

C. W. Simpson, assistant overseer of weaving at Ninety Six Mills, Ninety-Six, S. C., has been appointed overseer of weaving at mill in Iva.

J. E. Gunter, overseer of carding and spinning of upper and lower plants of Woodside Mills, Liberty, S. C., retired recently. He will be succeeded by **W. P. Evans,** of Union, S. C.

Harold Heaslip has resigned as superintendent of fabric department of Gloversville Knitting Co., Gloversville, N. Y.

Charles J. Henault has become overseer of dyeing at American Dye Works, Rockville, Conn.

W. J. Honeycutt has resigned as superintendent of Oakdale Cotton Mills, Jamestown, N. C., and **W. C. Chandler** has been promoted to succeed him.

J. D. W. Hubbeling has become chief chemist for American Enka Corp. plant at Lowland, Tenn.

OBITUARY

Edward L. Greene, 92, one of the founders of Nokomis Cotton Mills, Lexington, N. C., died recently.

George T. Greenhalgh, 85, founder and president of the Greenhalgh Rayon Mills, died in Pawtucket, R. I.

Philip Freeman, 72, founder of Queens Knitting Mills, died recently. Mr. Freeman had been associated with the knitting industry since 1904.

William Richter, 62, member of the board of directors of E. I. du Pont de Nemours & Co., for 18 years before he resigned in 1948, died Mar. 20. He was general manager of the Fabrics & Finishes Div. when he retired.

Fred H. Thro, 75, knit-goods editor for *The Journal of Commerce* since 1935, died recently. He was for two decades associated with W. MacGlashen, knit goods mill agent in New York, and had previously been with *The Journal of Commerce* for several years around 1910.

Isidor Roth, president of Royal Worcester Corset Co.,

NEWS ABOUT *Men*

died recently at Worcester, Mass.

J. H. Ledyard, 74, for many years president and general manager of Tupelo Cotton Mills, Tupelo, Miss., died recently.

Jacob Fortinsky, 52, head of the Newark Silk Co., Wilkes-Barre, Pa., died recently.

Clarence R. Howe, 63, former president and treasurer of U. S. Bobbin & Shuttle Co., Providence, R. I., died recently. In earlier life, he was associated with Crompton & Knowles Loom Works, Worcester, and T. C. Entwistle Co., Lowell, Mass.

Robert H. Hommell, 65, who was for 20 years president of Mercury Mills Ltd., Hamilton, Ont., died recently at Wickenburg, Ariz.

Col. G. Edward Buxton, 68, at one time president of B. B. & R. Knight Inc., Providence, R. I., died Mar. 15. He became chairman of the board in 1935. He was president from 1932 to 1940 of the five Maine mills, Androscoggin, Bates, Edwards, Hill, and York. He was a director of U. S. Bobbin & Shuttle Co., Mill Associates, and Fruit-of-the-Loom Mills, Inc. In 1927 to 1928, he was president of the National Association of Cotton Manufacturers. He was a member of the cotton-textile industry commission under NRA, and was vice president of Cotton Textile Institute in 1933 to 1934.

Harry C. Belber, 51, president of Harry C. Belber Co., Inc., New York, died Mar. 24. He was at one time associated with Cadet Knitting Mills, Philadelphia, and was president of Sportmen's Hosiery Mills.

Merton M. Rudisill, 64, president and treasurer of Maiden Spinning Mills, Lincolnton, N. C., died recently in New York. Mr. Rudisill was the brother of Carl A. Rudisill, president of Carlton Yarn Mills, Cherryville.

Zim Franklin Cranford, 69, general manager of Crafspun Yarn Mill, Inc., Kings Mountain, N. C., died Mar. 14.

Horace B. Burks, 44, general manager of Wehadkee Yarns Mills, Talladega, Ala., died recently.

William G. Ewald, 62, manager of the Concordia-Gallia Div. of Burlington Mills Corp., New York, died Mar. 20.

Horace B. Burks, general manager of Wehadkee Yarn Mills, Talladega, Ala., died recently.

George Delano, 76, treasurer of Bourne Textile Mills, Tiverton, R. I., for 15 years until his retirement in 1929, died in March.

James V. Schroeder, retired traffic manager of Rumford Chemical Works, Rumford, R. I., died recently.

Robert S. Wallace, 60, Lunenburg, Mass., retired sales manager of Fitchburg Yarn Co., Fitchburg, died Mar. 17.

Mortimer Cohn, 45, vice president of Tubular Textile Machinery Corp., Woodside, N. Y., died recently. He had been a member of the firm for 20 years.

Frank S. Field, 84, Shelburne Falls, Mass., a former superintendent of Massamet Yarn Mills, Shattuckville, died March 23 at Bradenton, Fla., aged 84 years.

John B. Morris, Sr., night superintendent of Wiscassett Knitting Mills, Albemarle, N. C., died recently.

Joseph T. Buie, 59, assistant treasurer of Randolph Mills, Franklinville, N. C., died recently. He had been associated with the company for 45 years.

Wm. F. Chapman, 74, superintendent of the Riverside group of Dan River Mills, Danville, Va., at the time he retired, died recently.

John J. Reardon, 74, a retired foreman for U. S. Finishing Co., Providence, R. I., died in March.

Frederick A. Churchill, 71, former silk plant executive, died Mar. 15. He was at one time a foreman of Standard Silk Co., and superintendent of Stewart Silk Co., Easton, N. J., from 1921 to 1934.

Ernest Whitley, 69, Hudson, Mass., superintendent of Bradford Spinning Co., for several years until he retired three months ago, died recently.

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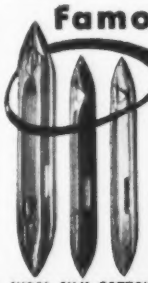

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One of a series *of messages to help you increase your understanding of business paper advertising, and its effect on your job.*

How much would NO advertising cost your company ?

SOME COMPANIES look upon advertising as an expense. When expenses have to be cut, the advertising budget looks like a good place to begin.

The only trouble with that theory is — it won't work.

Advertising can become expensive when you don't use *enough* of it. And "NO advertising" can cost far more than the "saving" it appears to create.

It's like failing to lubricate a piece of valuable machinery. You save the cost of the lubricant — but eventually there's a big repair bill to pay, not to mention your production losses while the machine is idle.

Advertising works something like a machine. It is the application of assembly-line methods to the five basic steps in the manufacture of a sale —

1. **Seeking out prospects**
2. **Arousing their interest**
3. **Creating a preference for your product**
4. **Making a specific proposal**
5. **Closing the order**

Can advertising perform all five of these steps? No, it usually takes a good salesman to handle the last two. But advertising *can* save much of his valuable time.

By mechanizing the *missionary job*, advertising becomes the most efficient method of manufacturing sales at a profit. Especially when it appears in the business press, where it is concentrated among your company's best prospects — *and no one else!*

TEXTILE WORLD

is a member of The Associated Business Papers, who have published an interesting folder entitled, "How much does NO advertising cost?" We'll be glad to send you a copy. Also, if you'd like reprints of this advertisement (or the entire series) to show to others in your organization, just say the word.

MEN WANTED

POSITIONS OPEN

We can place: GENERAL MANAGER group rayon weaving plants; superintendent chenille bedspread plant; superintendent woolen mill, women's wear fabrics, broadcloths, suedes, fleeces, etc.; production manager rayon fabric mill; worsted cloth mill superintendents; technical man, silk mill, narrow and broad looms; rayon fabric technician; asst. supt. worsted yarn mill complete plant, carding, combing, drawing and spinning; cloth broker for combed cotton goods (position in N. Y. City); superintendent wool scouring and carbonizing plant.

OVERSEERS FOR FOLLOWING DEPTS: woolen carding, 1st, 2nd and 3rd shifts; woolen yarn and piece dyeing (Canada); worsted carding and combing (goat hair); woolen frame spinning, $100 week; worsted burling and mending (South); jig box and pad dyeing; weaving and designer combined, rayon-cotton mill (So. Am.); woolen carding and frame spinning combined; examining and passing of finished worsteds; weaving, Draper looms, cotton and rayon fabrics; woolen-worsted yarn dyeing, cutting, underwear and sportswear.

SECOND HANDS FOR FOLLOWING DEPTS: woolen carding, 2nd and 3rd shifts; wet and dry finishing, knitted cloth; rayon weaving; woolen frame spinning and fixer, 3rd shift; cotton weaving, Draper looms.

TIME STUDY and industrial engineers; instructors for knitting and cotton carding and spinning (South); cost men $3,500-$7,000 year; chemist and chemical engineers, one with Ph.D. degree; synthetic thread salesman for shoe industry.

GARNETT FIXER; cotton-rayon loom fixers (So. Am.); fixers for Komet, Brinton, Grosser, Dubied, Leighton, Wildman, Stafford & Holt, Philadelphia jacquard Links and Links and Scott & Williams machines; fixer C.&K. and Stafford dobby and jacquard looms, $65-$80 week.

We invite correspondence (Confidential) with executives seeking new positions and with employers seeking new personnel.

CHARLES P. RAYMOND SERVICE
Incorporated
Over Fifty Years in Business
294 Washington St., Boston 8, Mass.
Telephones: Liberty 2-6547 — 2-6548

FINISHER WANTED

Nationally known textile organization in south wants a qualified finisher who has had experience on flat goods and underwear crepe. Man should have very sound synthetic fabric background. Please write giving full particulars on experience, background, and some indication of salary desired.

P-7309, Textile World
330 West 42nd Street, New York 18, New York

WANTED

Textile foreman to take charge of small New York mill. Thorough understanding of dyeing, finishing, starching, tentering, calendering of sheeting and print cloths, knowledge of repairs secondary. Steady position. State experience, salary desired, reference, etc.

P-8646, Textile World
330 W. 42nd Street, New York 18, N. Y.

SALESMAN WANTED

Chemical Company wants a Top-Notch Salesman with thorough knowledge of the Weaving and Throwing of Rayon and Acetate and Silk Fabrics. To solicit business on Sizing and Throwing Compounds. Preferably man with Chemical Background.

S.W.-8722, Textile World
330 West 42nd Street, New York 18, N. Y.

WHEN *Answering Advertisements*

PLEASE do not send original letters, certificates or photographs. We cannot be responsible for their return. Please send photostat or carbon copies.

REPLIES (Box No.): Address to office nearest you
NEW YORK: 330 W. 42nd St. (18)
CHICAGO: 520 N. Michigan Ave. (11)
SAN FRANCISCO: 68 Post St. (4)

POSITIONS VACANT

WORSTED YARN Spinner on Bradford System. State full particulars. Strictly confidential. P 8490, Textile World.

WANTED: A good styler for a plush mill. One that is capable of bringing out very attractive jacquard designs for upholstery covers, also create new fabrics of all types. P 8687, Textile World.

WE WOULD like to find a young textile chemist, preferably with knowledge of Spanish, interested in sales work part time traveling in Central America. P 8502, Textile World.

SELLING OPPORTUNITIES OFFERED

AGENT REQUIRED in U.S.A. for T. Brook & Sons, Ltd., Engineers and Machinery Makers and Merchants, Chapel Hill, Huddersfield, England. We make Hank Reeling Machines, Portable Electric Bale Stackers, Piece-end Sewing Machines, Electric Baling Presses, Hand Baling Presses, Hussong type Dyeing machines, for loose material, hydro extractors, electric lifting blocks, etc., and we specialize in the reconditioning of all classes of textile and mechanical machinery for further use. Send your inquiries. Will those really interested, please communicate with RW 9580, Textile World.

SALES REPRESENTATIVE: Graduate Textile Engineer, Southerner preferred to handle machinery sales to finishing plants, woolen and worsted mills. Please give personal data and mill experience in first letter. SW 8688, Textile World.

POSITIONS WANTED

1948 INDUSTRIAL Engineering graduate desires industrial engineering work, perferably in South. Would like either time study, production control, or production standards. PW 8515, Textile World.

TEXTILE SCHOOL graduate, 20 years experience as foreman and superintendent in silk, rayon and cotton wishes position in Phila. or vicinity. PW 8667, Textile World.

WOOLEN YARN Supt. or Technical Advisor. 20 years operating experience college education and technical training. Age 42. Married. Thorough knowledge of machine operation, design and maintenance. PW 8542, Textile World.

OVERSEER WOOLEN Carding desires position. Expert carder in every detail. Sober and reliable. Available at once. PW 8739, Textile World.

WOOLEN YARN Supt. Available to accept position. Experienced blending-carding and spinning, rings, tapes, frames and mules. PW 8741, Textile World.

BUSINESS OPPORTUNITY

Interested in the purchase of a small or medium size carded woolen mill, spinning, weaving and finishing, write with full particulars. BO 8653, Textile World.

SPECIAL SERVICE

S-6 Loom Owners. We know how to make your S-6 Looms run and transfer like they were built to run. Master Loom Service, 604 Oak Ave., Fairlawn, N. J.

Worsted Executive
Plant Manager or Superintendent

Interested in making a change. 25 years manufacturing and managerial experience. Men and Women's wear including selling. Aggressive. Can travel. Married.

PW-8086, Textile World
330 West 42nd Street, New York 18, N. Y.

Professional Services

LANCASTER, ALLWINE & ROMMEL
Registered Patent Attorneys

Patent Practice before U. S. Patent Office, Validity and Infringement Investigations and Opinions. Booklet and form "Evidence of Conception" forwarded upon request.

Suite 448, 815-15th St., N. W., Washington 5, D. C.

GENERAL MANAGER
WANTED

We have been asked to recommend a General Manager for a group of rayon weaving plants; previous experience in this line is desirable; preferably man with college education, one who has had actual practical experience in running textile mills.

This is a large position for a man qualified to handle a very responsible job. It is a permanent position.

We invite correspondence (confidential) with executives.

Charles P. Raymond Service, Inc.
(Employment Service)
294 Washington Street Boston 8, Mass.

TEXTILE CONSULTANT

specializing in Dyeing, Bleaching, Finishing, Research is open for connection with large organization or group of mills in USA or abroad. Have to offer exceptional experience.

Letters, etc. Address:

PW-8379—TEXTILE WORLD
330 W. 42 St., N. Y. 18, N. Y.

TEXTILE ENGINEER
Available for Plant or Laboratory

Graduate of Swiss Institute of Textile Technology with 5 years' manufacturing and laboratory experience. Just arrived in U. S. seeking connection. Excellent knowledge of weaving. First class references.

PW-8740, Textile World
330 West 42nd St., New York 18, N. Y.

ATTENTION MILLS

Large merchandising organization with national coverage, all trades, seeking woolen or worsted mills who may be anticipating change in selling agencies or who have no current sales agents. Both domestic and foreign mills desired. Reply

RA-8637, Textile World
330 W. 42nd Street, New York 18, N. Y.
or call Longacre 4-3935, N. Y. C.

Additional Opportunity Advertising on page 280, Auction Advertising on page 289

GOOD BUSINESS OPPORTUNITY

Established Textile Machine Builders desire to sell their Business, Plant, Real Estate, Equipment, Rights and Patents for a well known knitting machine now in operation in many mills around the world. It has *no* competition. Also a new type knitting machine which has *not* yet been marketed. Selling potential is unlimited with many sales outlets. This is a going business requiring men with capital, foresight, and marketing ability. Principals only.

BO-8601, Textile World
330 W. 42nd Street, New York 18, N. Y.

FOR SALE

RIBBON MILL

UNUSUAL OPPORTUNITY

Owner Wishes To Retire

RIBBON, BINDING, TAPE & OTHER NARROW FABRIC MILL & DYE HOUSE

Mill has 68 Fletcher Looms, auxiliary equipment and storehouse, also completely equipped Dye House. Both now in operation. Fluorescent lighting. 5 Room House completely furnished on the premises. All Buildings and Equipment in Excellent Condition. Bldgs. well constructed. 450 Miles from New York.

BO-8330, Textile World
330 West 42nd Street, New York 18, N. Y.

COMMISSION WEAVING

Will have twenty 40" dobby draper automatic looms available shortly for commission weaving, first quality. Looms can now be seen in operation. For further information write

CW-8623, Textile World
330 W. 42nd Street, New York 18, N. Y.

FOR SALE

COMPLETE RAYON AND SILK THROWING PLANT

Now in operation, 10,000 Sq. feet. 3 years lease. Located in New Jersey—near Manhattan. Owner leaving states.

B.O. 7858 Textile World
330 W. 42nd St., New York 18, N. Y.

COMPLETE PILE FABRIC MILL NOW OPERATING—UPSTATE N. Y.

FULLY EQUIPPED FOR QUALITY FABRICS
FROM WEAVING THRU FINISHING
(Samples of Fabrics on Request)

WILL SELL AS UNIT OR SEPARATELY

LOOMS - SLASHER - BEAMERS - CREELS - PIN DYERS - CONTINUOUS FINISH UNITS - CALENDERS - BRUSHES - SHEARS - COTTAGE STEAMERS - EMBOSSING MACHINES - STAINLESS STEEL DYE KETTLES AND NUMEROUS OTHER ITEMS USED IN PRODUCTION OF PILE FABRICS

With or without Real Estate of about 250,000 sq. ft. (All or part)

CLARK MILLS

989 - 6th Ave. - BRYANT 9-5270 New York City

SPRAY PAINTING

One coat covers
Cuts labor costs in half
No interference with production
Inquiries solicited *References on request*
INDUSTRIAL SPRAY PAINTING CO.
Ceiling areas & chain link fences
WATCH HILL RHODE ISLAND

WANTED

Large engineering firm wishes to acquire several complete textile plants through purchase of (1) capital stock, (2) assets, (3) machinery and equipment, whole or in part. Personnel retained where possible, strictest confidence.

Box 1222
1474 Broadway New York 18, N. Y.

CORDUROY DYEING *WANTED*

Opportunity offered experienced Dyer and Finisher of Corduroys, Velvets for plain dyeing of solid colors. Large volume. Full cooperation. Willing to invest. Strictly confidential.

BO-8735—Textile World
330 West 42nd Street, New York 18, N. Y.

WANTED

WANTED TO BUY WOOL REMNANTS or STRIPS

Full Widths
Can be ⅛ yard and up
12 to 16 ozs.

Will buy quantities —Regularly

KELLY FABRICS

172 Washington St. Newark 2, N. J.

WANTED - CHEMICALS

Dyes—Colors—Pigments
Oils—Waxes—Drugs
By-Products—Wastes—Equipment

CHEMICAL SERVICE CORP.
80C Beaver St. New York 5, N. Y.

DYESTUFFS

Will buy your surplus and obsolete dyes and chemicals for cash.

NEW ENGLAND PRODUCTS CO.
91 Oliver St. Boston Mass.

WANTED

2—Heavy Duty Draper Looms

Model XD 60-72" reed space with Gem Head motion. Prefer fully equipped automatic loom with 220 volts, 60 cycle and 3 phase motor. Must have cork or rubber take up roll.

W-8549, Textile World
330 W. 42nd St., New York 18, N. Y.

WANTED TO BUY

Skein Dyeing Machine for Cotton, Rayon and Wool. Small unit preferred.

INTERSTATE TEXTILE EQUIPMENT CO. INC.
508 W. Fifth St., Charlotte, N. C.

If Sir William Johnson of Amsterdam was alive today he'd recognize the wisdom of buying from "MLC" and getting CERTIFIED VALUE for his good money . . . . experienced textile men buy "MLC", and continue to buy from us, for that simple and sound reason.

HONOR ROLL

LEADING TEXTILE CENTERS OF AMERICA

AMSTERDAM, N. Y.

Shrewd Sir William Johnson bought property around Amsterdam, then known as Veedersburg, which was settled about 1775, and didn't change its name until 1814. In 1813 it had 2 carding and 2 fulling machines. In 1842 the first carpet looms were set up. In 1857 the manufacture of knit goods was started; and the Pioneer Hosiery Mills were built in 1856. Today the value of Amsterdam's output is over $17,000,000.

"Certified for Leadership"

ALL MLC "Certified" Opportunities

No. 11 of a Series

1—72" C & M 2-cylinder Brushing machine
1—30" Textile 5 Roll Calender
1—41½" Knit goods calender, stainless steel rolls with motor Reeves drive
1—44" 2-roll Schreiner Calender
1—50" 4-roll Rolling and Chasing Calender
1—46" 7-roll Textile Hydraulic Calender
1—47" 3-roll Heavy Duty Friction Calender, motorized
1—51" 11-bowl Hydraulic Chasing Calender, 3 chilled iron steam heated rolls, 7 cotton rolls, one cast iron roll
1—61" Textile 3-roll Calender, gear motor driven with speed reducer
2—New 3-cyl. Set of 60x60 D&F Cards, with 2.5 breast, Bramwell feed, double apron, tape condensers
12—8 Head Whitin D-2 Combers with Roth Aspirators and 2 Ribbon and 2 Sliver Lappers, 12" Coilers
5—C&M Flock Cutters
3—48" D&F Rub Condensers, Double Bank, Double Apron with Spool Racks
1—54" x 60" D&F 2-cylinder iron Shoddy Cards with feeders
1—48" C&M Dewing Machine, motor driven
4—100 sp. Foster Doublers
1—60" Windle 3C Doubling and Boarding Machine, motor driven
1—64" P&W Doubling & Rolling-up Machine with clock
1—Set of 31-40" face Butterworth Dry Cans
1—Set 30 copper Dry Cans, 23" x 123", in 3 vertical stacks
1—40" Schofield Box Duster with fan
1—48" Schofield Auto. Box Duster
1—Morrison 16 string s/s Dye Beck
1—36" P&S Loop Dryer
2—42" V. VL Stainless Steel Dye Jiggs motor driven
3—30" Werner S/S lined Die Jiggs
1—36" C&M Duster
1—7" D&F Iron Cone Duster with Feeder
8—18", 26", 32", 48", 54", 60" Extractors.
3—42", 48" E&H Flat Folders with take-up stands
1—Rodney Hunt M3, 2 string fulling mill, belt driven
1—40", 65" card and Napper Grinders
1—83" Roy Napper Roll Grinder
4—3-ton Kiers, motors, pumps and heaters
100—40" Draper Model K 20 Har Dobby Looms
99—45½" reed speed space Model E Draper Automatic Looms with lacey tops 3 bank stop motions, warm take-up, belt driven
50—44" cloth width Draper Mod. E Auto. Rayon Looms, 4 harness cam motions, motor driven, rebuilt 1947
40—47½" r.s. Draper Model K 20 harness Dobby Looms
35—52" b.s. C&K 2x1 non-auto. Silk Looms, 16 harness, motor driven
17—52" r.s. C&K 2x1 Auto. Silk Looms, 16 harness, motor driven
4—40" r.s. C&K 4x4 Looms, 20 harness dobbies and 1304 hook Jacquards, motorized

PRINTING EQUIPMENT

2—NEW 40" R. B. F. 6 Color Printing machines suitable for large pattern work
2—NEW 50" R. B. F. 12 Color Printing machines

W-3 LOOMS AND SUPPLIES

45—New 72" W-3 C&K 4x1 box, 25 harness Looms

COMPLETE MILL UNIT PROFIT OPPORTUNITIES

- 3—Six to Fourteen Set Woolen Yarn Mills
- A Woolen Piece Goods Finishing Plant
- 3—Worsted Units
- 6—Cotton Mills, 3,000-100,000 Spindles

5000 Spindle Cotton Mill Balance on #10's Combed Yarn
9500 SF. Cotton Mill with 70 Draper Broad Looms

- 108 Looms Narrow Fabric Weaving Plant for Ribbons, Tapes and Labels. Complete with Warping, Dying and Finishing Equipment

400 Needle Hosiery Mill
30 Loom Label Weaving Mill

PRICED RIGHT

96—Hopedale Rayon Looms weaving 40" width cloth, motor driven. Reconditioned 1947.

58—43" r.s. Draper Model X Looms, with 39" reed rolls, Brown 4 harness tops, motor Driven
12—70½" r.s. C&K 4x4 Looms, 25 harness, motor driven
6—83" C&K 4x1 Auto. Looms, 16 harness, motor driven
1—Schofield Lumber
1—48" C&K 4x4 box Loom, 25 harness, belt driven, friction clutch
14—84½" C&K Box 20 & 25 Harness Dobby Looms
16—72" Draper Mod. D 16 Harness Looms.
40—88" B.S. Draper Mod. L. Looms
2—74" Heavy Duck Looms, roller top
14—82" C&K 2x1 automatic Looms, 8 harness cam motion, motor driven
8—100 C&K 2x2 Box Auto. Looms with Baker 3-mix attachments, 25 harness gem heads
6—110" C&K 4x4 Box Looms, 25 harness, belt driven
10—C&K 22" Ribbon Looms with intermediate gem heads, belt drive
3—62" P&W 60 & 100 yd. Measuring Machines, belt driven
1—70" King & Gerber Tubing Machines with Veeder-Root counter
2—240 SP. J.&B. 1¾ Ga. Mules
1—392 Spindle Smith 2" Gauge Mule
2—240 Spindle J.&B. 2" Gauge Mules
2—New 360 Sp. D&F Mules, 2½" gauge
2—360 sp. D&F Mules, 2½" gauge, 1946
7—61", 66", 72", 80" Single & Double Acting Nappers
1—76" 3-roll Mangle
75—New Leland & Westinghouse ⅓ and 1 HP 3/60/220 V Heavy Duty Motors. Also various size Rebuilt Motors
1—30 x 30" Meserra Wool Opener
1—48" D&F 2-cyl. Wool Opener with Feeder
7—52", 65½", 66", 70", 80" Voelker and Gessner, single and double bed Rotary Cloth Presses.
1—48" C.D. Sargent Burr Pickers
3—48" & 54" Fearnaught Pickers
1—66" Rodney Hunt 2-roll Padder, motor driven, 1947
1—Rodney Hunt Acetate Presetting Equipment
4—45" 2 and 3 roll Padders.
1—72" 2-roll Quetch with flat folder, Reeves drive and motor.
4—50 spindle Lindsey-Hyde Adjustable Reels
5—82", 92", 96", and 100" D&F Reels, with creel, back stand, neck reed, warp reel beamer and warp compressor
1—50" Herman Shear with C&M Stitcher
1—63" Textile Finishing 4-burner Gas Singer
1—117" 4-burner Singer, air guiders, 2-roll quetch box
8—New 120 sp. D&F 0¾" gauge spinning Frames
14,268 sp. Mason, Whitin, F&J and Saco-Fetzer 2½" and 3" gauge band driven Spinning
3—60" P&W Single Blade Woolen Shears
1—66" Parks & Wilson single Blade Plush Shear
11—66½" P&W 2-blade Shears
1—76" C&M Double Blade Shears
1—80½" P&W Single Blade Shears
1—60" Johnson 7-can Silk and Rayon Slasher, with s/s drums, quetch, stretch control, Taylor instrument control on the cylinder, motor driven.
1—Cameron Model 26 Slitters, motor driven
1—42" Firsching 26-knife Slitting Machine
2—Lowell 2-cylinder Slashers
1—40" Textile Clip Tenter, 60" opening with Housing
1—60" C&M Single Brush type Tiger
1008 Sp. S.L. 3" Ring Band Driven Twisters
3—80 Spindle Hopedale Band Driven Twisters 4½" ring, 5½" ga. Belt driven
4—180 Sp. Draper 2½" Ring Wet Twisters.
1—144 Sp. Whitin 3" Ring Wet Twister.
2—8-string Hemmer Wool Washers
7—100 Sp. Foster Model 12 12A 21A Tube & Cone Winders
1—90 Sp. Foster Model 30 Cone Winder

MANY OTHER UNITS WITH PROFITABLE PRODUCTION POSSIBILITIES. PLEASE OUTLINE YOUR REQUIREMENTS. SEND FOR COMPLETE DETAILED LIST OF MACHINERY FOR SALE.

MACHINERY LIQUIDATING COMPANY

A Dealer of Recognized Reliability

31-33 WEST 42ND STREET NEW YORK 18, N. Y.

DOMESTIC TELEPHONE PEnnsylvania 6-8014 EXPORT

WAREHOUSES: Paterson, N. J., 9 Godwin St., Tel. SHerwood 2-0373—Hawthorne, N. J., 38 4th Ave., Tel. HAwthorne 7-9061

SPECIALISTS IN SELLING AND PURCHASING TEXTILE MACHINERY, ACCESSORIES AND MILL SUPPLIES

SEARCHLIGHT SECTION

OPENING, CARDING & SPINNING

1—Baling Press with motor, 28x60x40
4—Saco-Lowell 40" Cards, 27" doffer, 12" coiler
22—Dobson & Barlow Cards 41", 24" doffer
50—Cotton Cards, 50", 12" coilers, 110 flats
7—Whitin Roller Cards 48", 27" doffer
14—Whitin D2 Combers, 12" coiler, 8 laps per
22—Whitin D Combers, 8 heads, stop motion
12—Whitin Drawing, Model H, 6 del. ea., 12" coilers
4—Saco-Pettee Fine Frames 7x3, 176 spdls.
2—Saco-Lowell F5 Feeder Hoppers
1—Kitson F-2 Feeder Hoppers, 38½"
34—Saco-Pettee Spinning Frames, 256 spdls., 2¾" gauge, Roth L.D.
75—Whitin Spinning Frames, 264 spdls., 3¼" gauge, Casablanca L.D.

WARPING AND WINDING

1—Schweiter Winder
1—Sipp-Eastwood, p.n Creel, 4½" gauge
1—New Reiner Magazine Creel, 280 ends
1—French Worsted Doubler, 100 spdls., motor
2—Foster #101, 80 spdls. cone, w/motor
1—Draper Warper w/creel, 570 ends, motor

COMPLETE MILLS

Cotton Sheeting Mill, 20,000 spdls., 427 looms
Cotton Yarn Mill, 7,000 spdls.
Rayon Finishing Plant
Rayon Finishing & Printing Plant
Woolen Blanket Mill w/real estate
Worsted Weaving Mill, 100 looms
Worsted Yarn Mill, 3,400 spdls.
Woolen Carpet Yarn Mill
Cotton Spinning Mill, 12,000 spdls.
Sheeting, Print Cloth, 9900 spdls., 210 looms
Ribbon Mill
Jacquard Label Weaving Plant

LOOMS

140—Draper K, 45" dobby, w/motor
33—C & K W-3 72" w/motor, 1947
150—Draper XD 50", auto. w/motor, 1947
21—C & K C-4 60" auto. w/motor
58—Draper X 43" r.s. auto. w/motor
150—Stafford 56" 2x1 non-auto.
16—C & K 4x1 auto. 82", belt
24—C & K 4x4 92" non-auto.
100—C & K S-5 56" 2x1 auto.
144—Draper Model E, 45" r.s., belt

DYEING AND FINISHING

1—V.V. Embossing Calender #2, motor
1—Gas Singer, 60" wide, motor drive
1—Copper Mixing Kettle, 200 gal.
1—Philips Mixing Kettle, 100 gal.
1—Butterworth Tenter Frame, 62" wide, 80' long, housing, burners, quetsch & batcher
1—Butterworth Pin & Roller Frame, 120" width
126—Copper Print Rolls, 45" & 46" wide
1—W & J Tenter Frame 40' long, 54" wide, s.s. clips, motor
1—Schreiner Hydraulic Calender, 55" width, pump
2—Butterworth Hydraulic Calender, 2 rolls, 42" width, pump
1—V.V. Quetsch, 50" width, 2 rolls, s.s. pan
1—W & J Tenter Frame 20' long, 62" wide
1—P & S Loop Dryer, 30' long, double run
1—P & S Skein Dryer, 4 units w/motor
1—V.V. Centrifugal Extractor 60" w/motor
1—Tolhurst Extractor, 48" copper basket
1—Butterworth Calender, 60" width, 5 rolls
1—Pebble Embossing Calender, 50" width

RICE, BARTON AND FALES PRINT MACHINES, 6, 10, 12 colors

REMEMBER

Republic Textile

EQUIPMENT COMPANY

40 WORTH STREET NEW YORK CITY

Purchase and Sale of Used Machinery

REFINANCING • APPRAISALS • PURCHASE • SALE • LIQUIDATION OF MILL PROPERTIES

PREPARATORY

2—Sargent 42" Picker Feeds
2—Harwood 60" Garnett Feeds
1—Hunter 7 section Raw Stock Dryer
1—Sargent 48" Rag Duster
1—D. & F. 7' all iron Cone Duster
1—Schofield 48" automatic Duster (Box)
1—C. & M. 48" Fearnaught Mixing Picker
1—C. & M. 24" Shoddy Picker
1—Schofield Hard Waste Pickers 18"x30"
1—P. & S. 24" Shoddy Picker
1—Schofield 42" Carding Rag Picker
1—C. & M. 48" Burr Picker with Feed
1—Clark 48" 6 bar Mixing Picker (New)
1—S. F. 36" Lumpers, ball bearing
1—Kitson 36" S-L Bale Breaker
1—Taylor-Wadsworth Backwasher and Dryer
1—Hunter 3 cyl. Garnett 30"x48"

WINDING

UNIVERSAL #50 & #90 WINDERS REBUILT TO ORDER
2—Universal #9 Winders
1—Foster Model 12, 80 sp. Skein to Cone Winder, Mtr. dr.
1—Whitin 378 Sp. Quiller 2½" gauge
3—L. & B. Jackwinders
1—*O. L. No. 20 Hi-Speed Cop Winder*
2—Worcester Warp Comp. Spoolers

WARPING AND WEAVING

1—S. F. Warp Compressor
4—Altemus or Cleveland type Warpers, rebuilt to order
2—Altemus Long Chain Beamers
1—Worcester Cone Creel, elec. stop motion, magazine type, 176 active ends
4—C. & K. 82" 4x1 automatic Looms
12—C. & K. 82" 4x1 Box Looms
2—L. & G. Chenille Cutters

FINISHING

1—Perkins Cloth Piler, 72" traverse
1—*Hunter No. 10 Fulling Mill*
1—Fletcher 60" Mtr. Dr. Extractor
3—Tolhurst Mtr. Dr. Extractors 72", 96"
1—Butterworth Rope Squeezer
1—C. & M. 170" Rolling Teasel Gig
1—P. & W. 66" Double Shear
1—P. & W. 66" Plush Shear
1—Gessner 66" Heavy Duty Press
1—Voelker 66" Double Bed Press
1—*P. & W. 66" 4 cyl. Brush & Sander*
1—Yorkshire Crab 72"—3 bowl
1—K. & B. 72" Full Decator
4—Hermas, Werner Mtr. Dr. Inspecting Mach. 72"-96" wide

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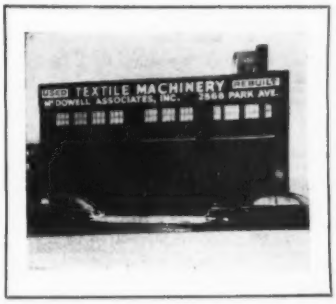

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1 NAPPER, 90", S.A. 20 roll.
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1 PALMER, TENTER, QUETCH UNIT, 60",
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1 WOOL SCOURING RANGE, 5 bowl, 48", with Dryer.
1 WOOL SCOURING RANGE, 5 bowl, 54", with Dryer.
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1 *TAPE CONDENSER, 60", 96 ends.*
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8 C&K LOOMS, 82", 4 x 1, mtrzd.
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3 C&K LOOMS, W-2, 82", 4 x 1, mtrzd.
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4 C&K LOOMS, W-3, 92", 4 x 1, mtrzd.
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5 DRAPER X LOOMS, 48", mtrzd.
36 STAFFORD LOOMS, 50", 2 x 1, mtrzd.
42 DRAPER XP LOOMS, 60", mtrzd.
14 DRAPER LOOMS, 80", 2 x 1, mtrzd.
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2 Bramwell 60" Feeds
10 Intermediate Broadband 60" Feeds
1 D&F Fearnaught Picker 48" 1944
2 Whitin 120 sp. Model E Spinning Frames 6½" ga. 5" ring
10 Atwood Mod. 10, 100 sp. Twisters 4" Ring, New
9 S.L. 176 sp. Twisters 5" ga. 3½" ring, 1940
10 S.L. 264 sp. Z-2 Spinning Frames 3½" ga. 2½" ring
10 S.L. 288 sp. Spinning Frames 3¼" ga. 1⅞" ring Roth System, 1945
3 Roto Coners #44, 100 sp. 1941
50 #90 Winders, Bunch Builders 8¾" bobbin, mtr. dr.
11 Worsted Ring Rovers 6½" ga. 4¼" ring
4 D&F 90" D.A. Nappers 24 rolls 1936
1 D&F 84" D.A. Napper 24 rolls 1944
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2—Whitin Return Air Condensers, Model A, 1945, motor driven

CARD

1—New Whitin Model G-4 60x60 3-cylinder Woolen Card, Metallic Breast, Type E Hopper Feed

SPINNING

2—Davis & Furber Wool Ring Spinning Frames, Tape Drive, 6½" gauge, 5" ring, 144 spindles each, 1941 Model

2—Whitin Wool Spinning Frames, Model E, Tape Drive, 6½" gauge, 5" vertical ring, 120 spindles

WINDERS

8—Whitin Schweiter Winders, 12 spindles each, 1941-42 Model

2—Universal #44 Roto-Coners, 100 spindles each

5—Foster #103 Winders, 100 spindles each

9—Foster #102 Winders, 100 spindles each

LOOMS

30—Draper Model "XP" Looms, 1948 Model, 64" cloth

108—Draper Model XD" Looms, 1945 Model, 64" cloth

New Saco-Lowell Z-2 Attachments for 53—Spinning Frames, 3½" and 3" gauge

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6—Barber-Colman Portable Tying-In Machines, Model LC

1—Barber-Colman Portable Tying-In Machine, Model LL

1—Barber-Colman Portable Tying-In Machine, Model LS

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1—American Moistening Humidifying System, 228 heads, 7 controls, 5 water tanks, with Ingersoll-Rand Air Compressor, Size 17x11, installed 1943

1—American Moistening Humidifying system, 220 heads, 10 controls, 5 water tanks, with Pennsylvania Air compressor, Size 17x11, installed 1945

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2—90" Butterworth Micro-Set Padders, 1 new, 1 slightly used

1—60" John Verduin Hydraulic Padder, 2 rubber covered rolls 20" dia., stainless steel tank, motor driven Hydraulic Pump

1—130" Butterworth 17-can Dryer, 23" dia. x 130" face stainless steel cans, vertical frames, Johnson joints, roller bearings

1—72" Butterworth 24-can Dryer, new 23" dia. x 72" face stainless steel cans, vertical frames, Johnson joints, roller bearings

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1—60" Continuous Vat Ageing Unit, with 60" 2-roll Pneumatic Padder, 60" textile 3-roll Chemic Padder and 72" totally enclosed steam jacketed Ageing Box

2—58" Rebuilt Dye Jiggs, stainless steel lined

MISCELLANEOUS

2—Economy All Steel Baling Presses, Style 60F3S and 60F4S, motor driven

2—Davis & Furber 80" Double-Acting Nappers, 1941 Model

6—Curtis & Marble 52" Inspecting Machines, motor driven, rolling-up heads, electric eye attachments, 1946

1—New Stokes Universal Staple Cutter, Model 72-E, Serial No. A-80654, motor driven

2—Acme Silver Stitchers, 12" throat

1—New Portable "Lightnin" Mixer, Model S-2

1—New Royal Typewriter, 20" carriage

2—Remington-Rand 10-bank Printing Electric Calculators

1—Venango Stainless Steel Package Dye Unit, 500 lb., 300 lb. and 100 lb. kettles, Smith-Drum Dryer, installed 1947-48

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★ 5—S.S. Lined Dye Becks, 4', 6', 8', S.S. Reels, M.D.
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1—36" motor driven self balancing Hercules Extractor.
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3—Universal Tubers #50
4—Hermas Inspecting Machines
5—Sipp-Eastwood Warpers 84"
6—C & K 72" Looms Worsted 4x4 motor driven

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American Obermaier Corp.
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42" Lead Lined Copper Basket

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1 spindle—Capacity 35#

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36" Machine—2 Spiked Cylinders

2 DERBY DOUBLERS OR
SLIVER LAP MACHINES Item N-H
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ROTH LONG DRAFT COTTON SPIN-
NING FRAME ATTACHMENTS Item NL-R
For Saco-Lowell 4¼" Gauge

12 HUMIDIFIERS—Bahnson Item BH-NH

WINDING

2 WINDERS—Universal Item N-RC2
Model #44 Roto-Coners—6" Traverse
120 Spindles ea.—Cone Winding

WINDER—Universal Item N-RC1
Model #44 Roto-Coner—6" Traverse
100 spindles for Tube Winding

WINDER—Universal #90 Item FM-2
4 sections of 20 spindles each
Set up to run as single unit

QUILLER—Whitin Model J Item FM-1
304 spindle 3½" Gauge 10½" Traverse

CREEL—McBride 300 spindle Item 12196
6" Vert. & Hor. Centers
Individual Brakes & Elec. Drops
Stainless Steel Pigtail Guides

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YALE SEMI-DECATING
MACHINE Item B4149
By Kettling & Braun—66"

SANDING & WAXING MACHINE Item B-R-F
P & W Combination—2 Cylinder—66"

SHEAR—Plush—P & W Item 12571
3 Cylinders—66"—Belt Drive

2 EMBOSSING MACHINES Item 1244
Cavagnaro—60"—3 Roll

BOILOUT MACHINE—72" Wide Item 9866

DEWING MACHINE—P & W—72" Item 9755

TIGER—C & A—2 Cyl.—66" Item 12160

MISCELLANEOUS

BALER—Hand Operated Item 12588

87 LOCKERS—Steel Item E-L
6'H x 15"W x 12"D—3 per section

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Jaeger 3 Bag Concrete Mixer
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21—WHITIN Spinning Frames, Long Draft
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16—Saco-Lowell Cards, 40", 12" coilers
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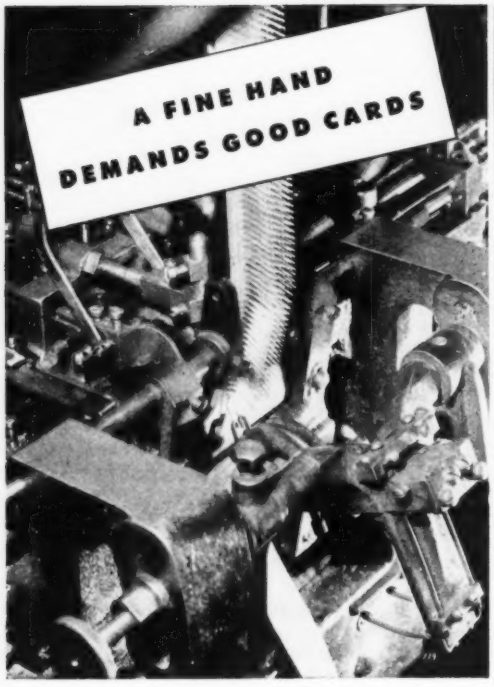

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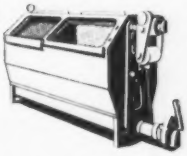

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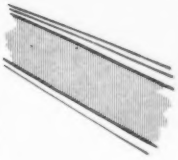

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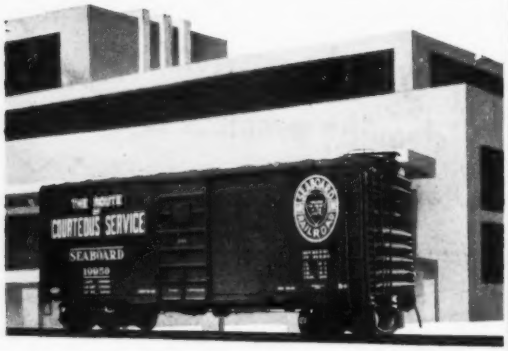

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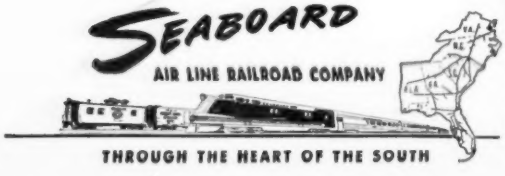

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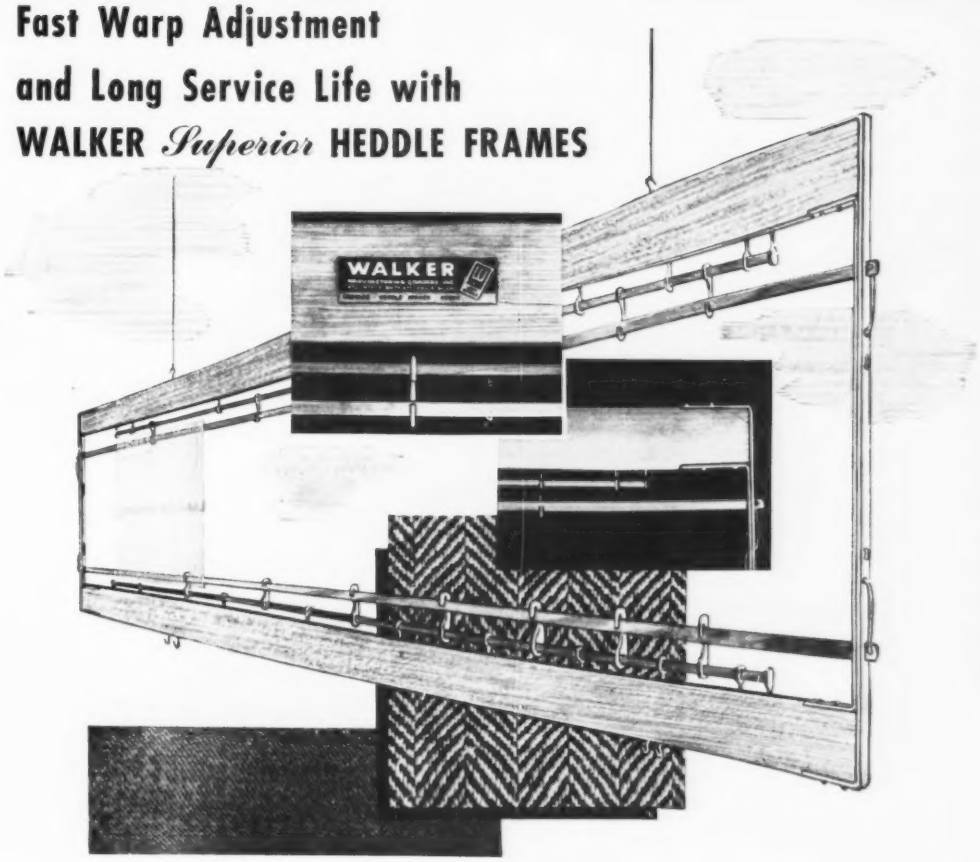

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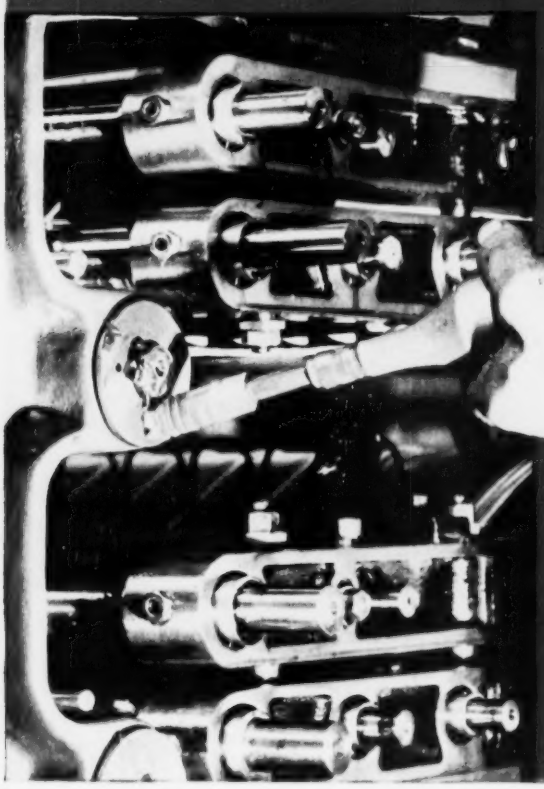

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